Attachment 4: Revised Residue Chemistry Chapter

May 12, 1999

MEMORANDUM

SUBJECT: **REVISED Residue Chemistry Chapter for the Methyl Parathion Reregistration Eligibility Decision (RED) Document.**
DP Barcode No.: D255926
Chemical No.: 053501
Reregistration Case No.: 0153

FROM: Bonnie Cropp-Kohlligian, Environmental Scientist
Reregistration Branch II
Health Effects Division [7509C]

THROUGH: Alan P. Nielsen, Branch Senior Scientist
Reregistration Branch II
Health Effects Division [7509C]

TO: Diana Locke, Risk Assessor
Reregistration Branch II
Health Effects Division [7509C]

A Residue Chemistry Chapter for the Methyl Parathion Reregistration Eligibility Decision (RED) Document was completed 6/11/98. Attached is the most recent revision of this RED Chapter hereafter referred to as the Residue Chemistry Chapter for the Methyl Parathion RED Document (REV 5/99).

Subsequent to the completion of the Residue Chemistry Chapter for the Methyl Parathion Reregistration Eligibility Decision (RED) Document (6/11/98), the Agency issued a Preliminary Human Health Risk Assessment entitled, “Methyl Parathion. The HED Chapter of the Reregistration Eligibility Decision Document (RED)” (completed 9/1/98). In response to the Agency’s Preliminary Human Health Risk Assessment of Methyl Parathion (completed 9/1/98), Jellinek, Schwartz & Connolly, Inc. submitted extensive comments (dated 11/6/98 and 2/16/99) to the Agency on behalf of Cheminova and Elf Atochem. In their 11/6/98 and 2/16/99 responses to the Agency’s Preliminary Human Health Risk Assessment of Methyl Parathion (completed 9/1/98),

the registrants clarified the food/feed uses of methyl parathion which they wish to support under reregistration. They also committed to generate certain additional residue chemistry data in support of the reregistration of methyl parathion.

The information contained in this document outlines the current residue chemistry science assessment with respect to the reregistration of methyl parathion and takes into account the responses of Cheminova and Elf Atochem (dated 11/6/98 and 2/16/99) to the Agency's Preliminary Human Health Risk Assessment of Methyl Parathion (completed 9/1/98). It also takes into account the following new residue chemistry data submitted by the registrants and IR-4, in support of the reregistration of methyl parathion, which are under review: (i) lettuce metabolism data (MRID 44669501), (ii) additional goat and hen metabolism data (letter dated 2/2/98), (iii) storage stability data on apple, grape, and peach commodities (MRIDs 44643602, 44413301, and 44413403), (iv) apple field trial data (MRIDs 44413501 and 44413502), (v) bean field trial data (MRID 43967301), (vi) cherry field trial data (MRIDs 44622501 and 44622502), (vii) cottonseed field trial data (MRID 44430601), (viii) field corn field trial data (MRID 44398301), (ix) grape field trial data (MRIDs 44413401 and 44413402), (x) hops field trial data (MRID 44501201), (xi) pecan field trial data (MRID 43760901), (xii) peanut field trial data (MRIDs 44620301 and 44620302), (xiii) rice field trial data (MRID 44643601), (xiv) wheat forage, hay, and straw magnitude of the residue data (MRID 41818502), and (xv) magnitude of the residue data on aspirated grain fractions (AGF) of wheat (MRID 44794501).

Attachment: Residue Chemistry Chapter for the Methyl Parathion RED Document (REV 5/99)

cc w/attachment: BLCKohlligian (RRB2), Methyl Parathion Reg. Std. File, Methyl Parathion SF, RF.

7509C:RRB2:BLCKohlligian:CM#2:Rm 712N:703-305-7462: 5/12/99.

RESIDUE CHEMISTRY CHAPTER
for the
METHYL PARATHION RED DOCUMENT
(REV 5/99)

INTRODUCTION

Methyl parathion [*O*,*O*-dimethyl-*O*-*p*-nitrophenylthiophosphate] is an insecticide/acaricide registered for use on a variety of fruits, vegetables, and field crops (see Table A). Cheminova Agro A/S and Griffin L.L.C. are the basic producers of methyl parathion technical in the U.S. Methyl parathion is sold in the U.S. by Cheminova, Inc. and Elf Atochem North America under the trade names Methyl Parathion and Penncap-M®, respectively. Formulations of methyl parathion registered for use on food/feed crops subject to reregistration include microencapsulated (Mcap) and emulsifiable concentrate (EC) formulations. Methyl parathion may be applied using aerial and ground equipment via foliar, dormant, and delayed dormant treatments. Multiple Active Ingredient (MAI) formulations of methyl parathion are registered in combination with ethyl parathion or endosulfan or malathion.

REGULATORY BACKGROUND

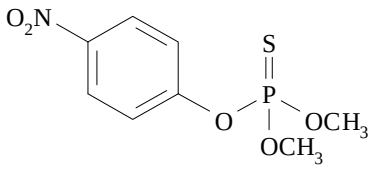
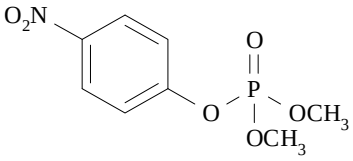
Methyl parathion is a list A reregistration chemical that was the subject of a Reregistration Standard (completed 11/8/95), a Guidance Document (completed 12/8/86), a Reregistration Standard Update (completed 11/24/92), a Residue Chemistry Chapter for the Methyl Parathion Reregistration Eligibility Decision (RED) Document (completed 6/11/98), and a Preliminary Human Health Risk Assessment entitled, "Methyl Parathion. The HED Chapter of the Reregistration Eligibility Decision Document (RED)" (completed 9/1/98). In response to the Agency's Preliminary Human Health Risk Assessment of Methyl Parathion (completed 9/1/98), Jellinek, Schwartz & Connolly, Inc. submitted extensive comments (dated 11/6/98 and 2/16/99) to the Agency on behalf of Cheminova and Elf Atochem. In their 11/6/98 and 2/16/99 responses to the Agency's Preliminary Human Health Risk Assessment of Methyl Parathion (completed 9/1/98), the registrants clarified the food/feed uses of methyl parathion which they wish to support under reregistration. They also committed to generate certain additional residue chemistry data in support of the reregistration of methyl parathion. The information contained in this document outlines the current residue chemistry science assessment with respect to the reregistration of methyl parathion and takes into account the responses of Cheminova and Elf Atochem (dated 11/6/98 and 2/16/99) to the Agency's Preliminary Human Health Risk Assessment of Methyl Parathion (completed 9/1/98).

Tolerances for residues of ethyl parathion or its methyl homolog (methyl parathion) in/on raw agricultural commodities (RACs) have been established under 40 CFR §180.121(a) and §180.319, and tolerances for residues of methyl parathion *per se* have been established under 40 CFR §180.121(b). No tolerances for residues of methyl parathion have been established for animal commodities or processed food/feed commodities.

The HED Metabolism Assessment Review Committee (memo by B. Cropp-Kohlligian dated 5/21/98) has tentatively concluded that methyl parathion residues of concern in plant commodities include methyl parathion, methyl paraoxon, and *p*-nitrophenol and that methyl parathion residues of concern in animal commodities include methyl parathion, methyl paraoxon, *p*-nitrophenol, and amino-paraoxon-methyl. The tolerance expression for plant and animal commodities may be based on methyl parathion only. Methyl parathion residues of concern to be included in the risk assessments based on cholinesterase inhibition for plant and animal commodities will include methyl parathion and methyl paraoxon. Residues of *p*-nitrophenol do not have to be included in the tolerance expression or considered in the aggregate risk assessment for methyl parathion with respect to cholinesterase inhibition, but should be considered in conjunction with the cumulative risk assessment for *p*-nitrophenol. Toxicology deems amino-paraoxon-methyl of concern due to neuropathy of unknown origin and not due to cholinesterase inhibition. Once outstanding livestock feeding studies have been submitted, the Agency will determine how to include amino-paraoxon-methyl in the risk assessment.

The chemical names and structures of methyl parathion and methyl paraoxon are depicted in Figure A.

Figure A. Chemical names and structures of methyl parathion and methyl paraoxon.

	Chemical Structure
Methyl parathion *O*, -dimethyl-*O* *p*-nitrophenyl	
Methyl paraoxon *O O*-dimethyl- -*p* phosphate	

SUMMARY OF SCIENCE FINDINGS

A search of the Reference Files System (REFS) conducted 4/19/99 identified 3 methyl parathion end-use products with food/feed uses that are currently registered to

registrants have committed to support under reregistration according to their responses (dated 11/6/98 and 2/16/99) to the Agency's Preliminary Human Health Risk

presented below.

EPA Reg No.	Label Acceptance Date	Formulation Class	Product Name
4581-292 [a]	7/98	2 lb/gal Mcap	Penncap-M Microencapsulated Insecticide
67760-39 [b]	5/98	3 lb/gal EC	Ethyl-Methyl Parathion 6-3 EC
67760-29 [c]	3/97	4 lb/gal EC	Cheminova Methyl Parathion 4 EC

[a]Includes Special Local Needs (SLN) Registration Nos. AL97000300, CA97002400, ID84001000, IN88000200, IN88000700, LA96000100, MN97000100, MO95000100, MS97000600, NM82000400, WA82005400, and WI95000500.
[b]This is a MAI formulation containing 6 lb ai/gal of parathion in addition to 3 lb ai/gal of methyl parathion.
[c]Includes SLN Registration Nos. ID97001300, OR9700200, TX97000600, and WA97003400.

The search of REFS also identified several 5 lb/gal EC formulations of methyl parathion

with food/feed uses which are currently registered to companies other than Cheminova and Elf Atochem (EPA Reg. Nos. 2935-527, 5481-175, and 34704-795) and 3 Special Local Needs (SLN) registrations which were issued under products not registered to Cheminova or Elf Atochem. These SLN registrations are: (I) TX97000900 under EPA Reg. No. 2935-528, (ii) NV97000100 under EPA Reg. No. 2935-527, and (iii) WA97001800 under EPA Reg. No. 2935-527.

The Agency has determined that the following food/feed crops for methyl parathion are subject to reregistration: alfalfa (grown for forage and hay), almonds, apples, artichokes (globe), barley, beans (dried and succulent, excluding cowpeas), broccoli, Brussels sprouts, cabbage, canola, carrots, cauliflower, celery, cherries, collards, corn (sweet, field, and pop), cotton, grapes, grass (grown for forage and hay), hops, kale, lentils, lettuce (head and leaf), mustard greens, nectarines, oats, onions, peaches, peanuts, pears, peas (dried and succulent, excluding field peas), pecans, plums, potatoes, rice, rye, soybeans, spinach, sugar beets, sunflower, sweet potatoes, tomatoes, turnips, walnuts, wheat, and yams. ULV applications of methyl parathion on cotton are also subject to reregistration. A summary of the food/feed use sites, patterns, and restrictions subject to reregistration for methyl parathion is provided in Table A.

Cheminova and Elf Atochem have submitted the majority of the residue chemistry data in support of the reregistration of methyl parathion. The food/feed use sites, patterns, and restrictions which they wish to support, according to their responses (dated 11/6/98 and 2/16/99) to the Agency's Preliminary Human Health Risk Assessment of Methyl Parathion (completed 9/1/98), are consistent with the food/feed use sites and restrictions prescribed by the Agency, herein, and consistent with the food/feed use patterns prescribed by the Agency, herein, with the following exceptions: almonds, apples, cherries, lettuce, pears, spinach, and all of the *Brassica* Leafy Vegetables. The use patterns prescribed by the Agency for these crops are based on the use pattens supported by the available residue chemistry data. Cheminova plans to support the use of the EC formulation of methyl parathion on alfalfa and grass but did not specify use patterns for these crops in their responses (dated 11/6/98 and 2//16/99) to the Agency's Preliminary Human Health Risk Assessment of Methyl Parathion (completed 9/1/98). The Agency's prescribed use patterns for alfalfa and grass are based on current label use rates for the use of the EC formulation of methyl parathion on alfalfa and grass. See Table A for details concerning the Agency's prescribed food/feed use sites, patterns, and restrictions for methyl parathion.

IR-4 has submitted the residue chemistry data in support of the use of methyl parathion on hops. The use pattern which the Agency understands that IR-4 wishes to support on hops is consistent with the use pattern prescribed by the Agency. See Table A for details concerning the Agency's prescribed food/feed use sites, patterns, and restrictions for methyl parathion.

A tabular summary of the residue chemistry science assessment for reregistration of

methyl parathion is presented in Table B. The conclusions listed in Table B regarding the reregistration eligibility of methyl parathion food/feed uses are predicated on the use sites, pattens, and restrictions prescribed by the Agency and summarized in Table A. When end-use product DCIs are developed (e.g., at issuance of the RED), the Registration Division (RD) should require that all end-use product labels (e.g., MAI labels, SLNs, and products subject to the generic data exemption) be amended such that they are consistent with the food/feed use sites, patterns, and restrictions specified in Table A.

NOTE: The Agency's prescribed food/feed use sites, patterns, and restrictions for methyl parathion summarized in Table A are specific to each of the methyl parathion formulations discussed above (hereafter referred to as 5 lb/gal EC, 4 lb/gal EC, 3 lb/gal EC, and 2 lb/gal Mcap). Detailed summaries of the Agency's prescribed food/feed use sites, patterns, and restrictions specified to each of the methyl parathion formulations are provided in Appendix A (5 lb/gal EC and 4 lb/gal EC), Appendix B (3 lb/gal EC), and Appendix C (2 lb/gal Mcap). These appendices to not include SLN registrations, since no amendments are required for existing SLN registrations with the exception of SLN IN88000700.

OPPTS GLN 860.1300: Nature of the Residue in Plants

The qualitative nature of the residue in plants is not adequately understood. Acceptable metabolism studies are available for cotton and potatoes; however, the previously submitted lettuce metabolism study has been deemed inadequate. The Agency has required a new lettuce metabolism study.

The HED Metabolism Assessment Review Committee (memo by B. Cropp-Kohlligian dated 5/21/98) has tentatively concluded that based on available plant metabolism and magnitude of the residue data, methyl parathion residues of concern in/on plant commodities are methyl parathion, methyl paraoxon, and *p*-nitrophenol. Methyl parathion residues of concern to be included in the risk assessment for plant commodities based on cholinesterase inhibition will include methyl parathion and methyl paraoxon. The tolerance expression may be based on methyl parathion only since detectable levels of methyl paraoxon have not been found in/on commodities tested by FDA monitoring. Residues of *p*-nitrophenol do not have to be included in the tolerance expression or considered in the aggregate risk assessment for methyl parathion with respect to cholinesterase inhibition, but should be considered in conjunction with the cumulative risk assessment for *p*-nitrophenol. The risk assessment for *p*-nitrophenol will be based on its own toxicological endpoints (rather than cholinesterase inhibition) and should include exposure to *p*-nitrophenol from its use as a fungicide on leather. Residues of methyl parathion, methyl paraoxon, and *p*-nitrophenol should be determined in/on plant samples collected in future plant magnitude of the residue studies.

The registrant (Cheminova) has submitted a new lettuce metabolism study (MRID

44669501) which is under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any of the dietary exposure estimates used in the dietary risk assessments for methyl parathion. No new methyl parathion residues of concern were identified in the subject study. Pending acceptance of the new lettuce metabolism data to satisfy this guideline requirement, no additional plant metabolism data are required to support the reregistration of methyl parathion.

OPPTS GLN 860.1300: Nature of the Residue in Livestock

The qualitative nature of the residue in animals is understood based upon adequate ruminant and poultry metabolism studies. The following additional data are required to validate the experimental methods for the poultry and ruminant metabolism studies: (I) the in-life portion of the study, including total feeds consumed to determine theoretical dietary intake of methyl parathion, as ppm, in the feed; (ii) the storage intervals for goat tissue and milk, and hen tissue and egg samples; and (iii) for the ruminant study only, the specific fraction or matrix used for Soxhlet extraction, acid hydrolysis, and enzyme hydrolysis; flow charts must be provided to indicate at what point these procedures were used.

The HED Metabolism Assessment Review Committee (memo by B. Cropp-Kohlligian dated 5/21/98) has tentatively concluded that based on available animal metabolism data, methyl parathion residues of concern in animal commodities are methyl parathion, methyl paraoxon, *p*-nitrophenol, and amino-paraoxon-methyl. [Note: Livestock feeding studies remain outstanding.] As with plants, methyl parathion residues of concern to be included in the risk assessment for animal commodities based on cholinesterase inhibition will include methyl parathion and methyl paraoxon. The tolerance expression may be based on methyl parathion only. Residues of *p*-nitrophenol do not have to be included in the tolerance expression or considered in the aggregate risk assessment for methyl parathion with respect to cholinesterase inhibition, but should be considered in conjunction with the cumulative risk assessment for *p*-nitrophenol. The risk assessment for *p*-nitrophenol will be based on its own toxicological endpoints (rather than cholinesterase inhibition) and should include exposure to *p*-nitrophenol from its use as a fungicide on leather. Toxicology deems amino-paraoxon-methyl of concern due to neuropathy of unknown origin and not due to cholinesterase inhibition. Once outstanding livestock feeding studies have been submitted, the Agency will determine how to include amino-paraoxon-methyl in the risk assessment. Residues of methyl parathion, methyl paraoxon, *p*-nitrophenol, and amino-paraoxon-methyl should be determined in meat, milk, poultry, and egg tissue samples from the required livestock feeding studies.

In a letter dated 2/2/98, the registrant (Cheminova) has submitted the additional data required to validate the experimental methods for the poultry and ruminant metabolism studies concerning: (I) the in-life portion of the study, including total feeds consumed to determine theoretical dietary intake of methyl parathion, as ppm, in the feed; (ii) the

storage intervals for goat tissue and milk, and hen tissue and egg samples; and (iii) for the ruminant study only, the specific fraction or matrix used for Soxhlet extraction, acid hydrolysis, and enzyme hydrolysis; flow charts must be provided to indicate at what point these procedures were used. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any of the dietary exposure estimates used in the dietary risk assessments for methyl parathion. Pending acceptance of these data to validate the experimental methods for the poultry and ruminant metabolism studies and satisfy this guideline requirement, no additional animal metabolism data are required to support the reregistration of methyl parathion.

OPPTS GLN 860.1340: Residue Analytical Methods

Pesticide Analytical Manual (PAM) Vol. II lists Methods I(a) and I(b) (PAM, Vol. I multiresidue methods for organophosphates), I(c), I(d), and II for parathion. Methyl parathion is also recovered under these methods.

The proposed enforcement method(s) employed to determine methyl parathion and methyl paraoxon in plant commodities are the FDA multiresidue testing protocol(s). Therefore, an independent laboratory validation (ILV) is not required.

In conjunction with the ruminant and poultry feeding studies, the registrants must provide data validating the analytical method(s) used for determining methyl parathion, methyl paraoxon, *p*-nitrophenol, and amino-paraoxon-methyl in meat, milk, poultry, and eggs. If the feeding studies indicate that tolerances are necessary for residues in animal commodities, then the registrants must propose an enforcement method for determining the residues of concern in animal commodities which must be regulated.

OPPTS GLN 860.1360: Multiresidue Method Testing

The FDA PESTDATA database indicates that methyl parathion is completely recovered using FDA Multiresidue Protocols D (nonfatty), E (nonfatty), and F (fatty). Methyl paraoxon is not recovered by Protocols E and F. The recovery of methyl paraoxon by Protocol D has not been determined.

OPPTS GLN 860.1380: Storage Stability Data

Acceptable storage stability data are available indicating that methyl parathion *per se* is stable at -20 C for up to 24 months in turnip roots and tops, green onions, lettuce, cabbage, mustard greens, celery, soybeans, beans (snap and dry), peas (dry seed and succulent pods), pea forage and straw, corn grain, forage and fodder, wheat grain, forage and straw, grass hay, and clover forage; for up to 18 months in sunflower seeds; for up to 14 months in canola seed, oil, meal, and processing waste; for up to 12 months in almonds, almond hulls, and walnuts; and for up to 6 months in tomato wet pomace, puree, juice, and catsup.

Data are also available indicating that the metabolite, methyl paraoxon, is stable at -20 C for up to 24 months in turnip roots and tops, mustard greens, cabbage, celery, beans (snap and dry), peas (dry seed), pea forage and straw, corn grain, forage and fodder, wheat grain, forage and straw, grass hay, and clover forage; for up to 18 months in green onions and sunflower seeds; for up to 14 months in canola oil and processing waste; for up to 12 months in almond hulls; for up to 6 months in lettuce and canola meal; and for up to 1 month in almonds, soybeans, succulent pea pods, canola seeds, and walnuts.

With the exceptions of residues of methyl paraoxon in lettuce, soybeans, succulent pea pods, canola seeds, and nuts, the storage stability data indicate that residues of methyl parathion and methyl paraoxon are stable in plant commodities for the intervals and under the conditions that test samples were stored in the residue chemistry studies. Although methyl paraoxon is unstable in selected plant matrices, additional field trial data will not be required to replace the available residue data on these commodities as methyl paraoxon did not comprise a sizable portion of the terminal residue in the plant metabolism studies and was only observed at detectable/significant levels in a limited number of crops.

New stability data have been submitted demonstrating the stability of methyl parathion residues of concern in apples (MRID 44643602), peaches (MRID 44413301), and grapes (MRID 44413403) which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any of the dietary exposure estimates used in the dietary risk assessments for methyl parathion. Pending acceptance of these storage stability to satisfy guideline requirements, no additional data depicting the storage stability of methyl parathion residues of concern in plant commodities are required to support the reregistration of methyl parathion.

Data depicting the storage stability of methyl parathion residues of concern in animal commodities are required in conjunction with the ruminant and poultry feeding.

<u>OPPTS GLN 860.1500: Magnitude of the Residue in Plants</u>

Residue chemistry data depicting methyl parathion residues of concern are <u>not</u> required on the following food/feed crops which the Agency understands are <u>not</u> being supported under the reregistration process: apricots, avocados, birdsfoot trefoil, blackberries, blueberries (huckleberries), boysenberries, citrus fruits, clover, cowpeas, cranberries, cucumbers, currants, dates, dewberries, eggplants, endive (escarole), field peas, figs, filberts, garden beets, garlic, gooseberries, guar beans, guavas, kohlrabi, Loganberries, mangoes, melons, mustard seed, okra, olives, parsley, parsnips, peppers, pineapples, pumpkins, quinces, radishes, rapeseed, raspberries, rutabagas, safflower seed, sorghum, squash, strawberries, sugarcane, Swiss chard, tobacco, vetch, and Youngberries. Likewise, residue chemistry data depicting methyl parathion residues of concern are not required on the following food/feed commodities which the

Agency understands are not being supported under the reregistration process: alfalfa grown for seed, grass grown for seed, soybean forage, and soybean hay.

Residue chemistry data depicting methyl parathion residues of concern are required on the following food/feed crops which the Agency understands are being supported under the reregistration process: alfalfa (grown for forage and hay), almonds, apples, artichokes (globe), barley, beans (dried and succulent, excluding cowpeas), broccoli, Brussels sprouts, cabbage, canola, carrots, cauliflower, celery, cherries, collards, corn (sweet, field, and pop), cotton, grapes, grass (grown for forage and hay), hops, kale, lentils, lettuce (head and leaf), mustard greens, nectarines, oats, onions, peaches, peanuts, pears, peas (dried and succulent, excluding field peas), pecans, plums, potatoes, rice, rye, soybeans, spinach, sugar beets, sunflower, sweet potatoes, tomatoes, turnips, walnuts, wheat, and yams. ULV applications of methyl parathion on cotton are also subject to reregistration. A summary of the food/feed use sites, patterns, and restrictions subject to reregistration for methyl parathion is provided in Table A.

Provided the registrants amend all end-use product labels, as necessary, to conform to the Agency's prescribed food/feed use sites, patterns, and restrictions as specified in Table A (and further clarified for each formulation in Appendices A, B, and C), reregistration requirements for magnitude of the residue data are fulfilled for the use of methyl parathion on the following crops: almonds, artichokes (globe), beans (dried, excluding coowpeas), broccoli, cabbage, canola, carrots, celery, lentils, lettuce (head and leaf), mustard greens, peaches, peas (dried and succulent, excluding field peas), sunflower, spinach, tomatoes, and walnuts. Likewise, reregistration requirements for magnitude of the residue data are fulfilled for the use methyl parathion on the following crop commodities: sugar beet roots, turnip roots, and wheat grain. The residue chemistry data on broccoli, cabbage, and mustard greens (representative commodities of the *Brassica* Vegetables crop group) will be translated to satisfy magnitude of the residue data requirements in support of the use of the EC formulations of methyl parathion on Brussels sprouts, cauliflower, collards, and kale. The residue chemistry data on peaches will be translated to nectarines.

In support of the reregistration of the Mcap formulations of methyl parathion the registrant (Elf Atochem) has submitted the following new field trial data: (i) apple field trial data (MRIDs 44413501 and 44413502), (ii) beans field trial data (MRID 43967301), (iii) cherry field trial data (MRID 44622501 and 44622502), (iv) cottonseed field trial data (MRID 44430601), (v) field corn field trial data (MRID 44398301), (vi) grape field trial data (MRIDs 44413401 and 44413402), (vii) pecan field trial data (MRID 43760901), (viii) peanut field trial data (MRIDs 44620301 and 44620302), (ix) rice field trial data (MRID 44643601), and (x) wheat forage, hay, and straw magnitude of the residue data (MRID 41818502). These data are under review. Pending acceptance of these data to fulfill guideline requirements and provided the registrants amend all end-use product labels, as necessary, to conform to the Agency's prescribed food/feed use sites, patterns, and restrictions as specified in Table A (and further clarified for each

formulation in Appendices A, B, and C), no additional magnitude of the residue data are required to support the reregistration of the Mcap formulations of methyl parathion on the following crops: apples, beans (succulent, excluding cowpeas), cherries, corn (sweet, field, and pop), grapes, pecans, and peanuts. Likewise, no additional magnitude of the residue data will be required on the following crop commodities: cottonseed, rice grain, and wheat straw.

In support of the reregistration of the EC formulations of methyl parathion, IR-4 has submitted new hops field trial data (MRID 44501201) which are under review. Pending acceptance of these data to fulfill guideline requirements and provided the registrants amend all end-use product labels, as necessary, to conform to the Agency's prescribed food/feed use sites, patterns, and restrictions as specified in Table A (and further clarified for each formulation in Appendices A, B, and C), no additional hops magnitude of the residue data are required to support the reregistration of methyl parathion.

In support of the reregistration of the EC formulations of methyl parathion, the registrant (Cheminova) has submitted new magnitude of the residue data on the aspirated grain fractions (AGF) of wheat (MRID 44794501). These data are under review. Pending acceptance of these data to fulfill guideline requirements and provided the registrants amend all end-use product labels, as necessary, to conform to the Agency's prescribed food/feed use sites, patterns, and restrictions as specified in Table A (and further clarified for each formulation in Appendices A, B, and C), no additional aspirated grain fractions (AGF) magnitude of the residue data are required to support the reregistration of methyl parathion.

For the purposes of reregistration, additional magnitude of the residue data are required to support the use of the EC formulations of methyl parathion on the following crop commodities:
alfalfa (forage and hay), cotton gin byproducts, grass (forage and hay), sugar beet tops, turnip tops, wheat forage, and wheat hay.

For the purposes of reregistration, additional magnitude of the residue data are required to support the use of the Mcap formulation of methyl parathion on the following crop commodities: cotton gin byproducts, onions, pears, plums, potatoes, rice straw, and soybeans.

Once the additional data are received and accepted, residue chemistry data on potatoes will be translated to sweet potatoes and yams. Residue chemistry data on wheat will be translated to barley, oats, and rye commodities.

<u>OPPTS GLN 860.1520: Magnitude of the Residue in Processed Food/Feed</u>

In support of the reregistration of methyl parathion, processing data are required on the following food/feed crop commodities: apples, canola seed, field corn grain, cottonseed, grapes, oat grain, peanuts, plums/prunes, potatoes, rice grain, rye grain,

soybeans, sugar beet roots, sunflower seeds, tomatoes, and wheat grain. Reregistration requirements for magnitude of the residue in processed food/feed crop commodities are fulfilled for apples, canola seed, corn grain, cottonseed, grapes, potatoes, rice grain, soybeans, sugar beet roots, tomato, and wheat grain. Data from the processing study on wheat grain will be used to determine the need for tolerances on barley grain, oat grain, and rye grain processed commodities. Processing studies on peanuts, plums/prunes, and sunflower seeds are required.

Based on the available processing studies, tolerances are not required for residues in processed crop commodities of canola seed, corn grain, cottonseed, grapes, potatoes, sugar beet roots, and tomatoes. Residues did not concentrate in commodities processed from corn grain, cottonseed, grapes, and tomatoes bearing detectable residues. Residues were nondetectable in potatoes and sugar beet roots treated at 5x the maximum label rate and in the commodities processed from these crops.

Residues of methyl parathion did not concentrate in canola meal, but concentrated by 2x in refined canola oil processed from canola seed treated at 5x. Residues of methyl parathion were below the LOQ (0.05 ppm) in/on canola seed from all field trials. When residues in oil are adjusted for the degree of exaggeration, the maximum expected residues in oil would be <0.2 ppm. As the Agency is not proposing to decrease the current 0.2 ppm tolerance for residues of methyl parathion in/on canola seed, residues in oil would be covered by the current tolerance. Therefore, a separate tolerance is not required for canola oil.

In rice grain, residues of methyl parathion did not concentrate in brown rice, polished rice, or rice bran, but concentrated by 4.7x in rice hulls. Based upon the highest average field trial (HAFT) value for residues of methyl parathion in/on rice grain (2.35 ppm), a tolerance of 12 ppm for residues of methyl parathion in rice hulls should be established.

In apples, residues of methyl parathion did not concentrated in apple juice, but concentrated by 5.3x in wet apple pomace. Apple field trial data (including those under review (MRIDs 44413501 and 44413502) indicate that the currently established tolerance for residues of methyl parathion in/on apples (1 ppm) is just adequate to cover residues likely to occur in/on apples resulting from the maximum use rate of the Mcap formulation of methyl parathion on apples. Hence, a tolerance of 5 ppm should be established for residues of methyl parathion in apple, wet pomace.

In soybeans, residues of methyl parathion did not concentrate significantly in hulls and meal, but concentrated by 3x in refined oil. Based upon the reassessed tolerance for residues of methyl parathion in/on soybeans (0.05 ppm), a tolerance of 0.2 ppm for residues of methyl parathion in refined soybean oil should be established. [Note: Additional soybean magnitude of the residue data are required to support the use of the Mcap formulations of methyl parathion on soybeans. These data are considered confirmatory.]

In wheat grain, residues of methyl parathion did not concentrate in flour, but concentrated by ca 2x in wheat bran, shorts, and germ. Based upon the HAFT value for residues of methyl parathion (5.09 ppm) in/on wheat grain, a tolerance of 10 ppm for residues of methyl parathion in wheat bran, shorts, and germ should be established. In addition, these data should be translated to establish tolerances for residues of methyl parathion in barley bran and rye bran at 10 ppm.

New peanut processing data are required to support the use of the Mcap formulation of methyl parathion on peanuts. The registrant (Elf Atochem) has submitted new peanut processing data (MRID 44620303) to support the use of the Mcap formulation of methyl parathion on peanuts. The subject peanut processing data are under review. A preliminary evaluation of these data indicates that residues of methyl parathion do not concentrate in/on peanut meal and refined oil processed from peanuts treated with methyl parathion. It is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or any dietary exposure estimates used in the dietary risk assessment for methyl parathion. Pending acceptance of the subject peanut processing data to support the use of the Mcap formulation of methyl parathion on peanuts, no additional peanut processing data are required to support the reregistration of methyl parathion.

New plum/prune processing data are required to support the use of the Mcap formulation of methyl parathion on plums. New sunflower seed processing data are required to support the use of the EC formulation of methyl parathion on sunflowers.

<u>OPPTS GLN 860.1480: Magnitude of the Residue in Meat, Milk, Poultry, and Eggs</u>

Reregistration requirements for magnitude of the residue in meat, milk, poultry, and eggs remain outstanding. No tolerances have been established for residues of methyl parathion in animal commodities, although tolerances have been established on numerous animal feed items.

For the required feeding studies, ruminants and poultry should be dosed orally at 1x, 3x, and 10x the maximum expected dietary burden for a minimum of 28 days or until residues plateau in milk and eggs if they have not done so by 28 days. Animals should be sacrificed within 24 hours of receiving the final dose. Milk and eggs should be collected through the study, and samples of muscle, fat, liver, and kidney (ruminants only) should be collected at sacrifice for analysis. Samples should be analyzed for residues of methyl parathion, methyl paraoxon, *p*-nitrophenol, and amino-paraoxon-methyl. In addition, these studies must be supported by data depicting the storage stability of methyl parathion residues of concern in animal commodities. For additional guidance, the registrants should refer to OPPTS GLN. 860.1480.

Based upon the established or reassessed tolerances for residues of methyl parathion in/on animal feed items, the calculated maximum theoretical dietary burdens for livestock are presented below:

Feed Commodity	% Dry Matter [a]	% Diet [a]	Tolerance (ppm) [b]	Dietary Contribution (ppm) [c]
Beef Cattle				
corn stover	83	25	30	9.0
corn forage	40	40	10	10.0
wheat grain	89	35	5	2.0
TOTAL BURDEN		100		**21**
Dairy Cattle				
corn stover	83	15	30	5.4
corn forage	40	50	10	12.5
wheat grain	89	35	5	2.0
TOTAL BURDEN		100		**20**
Poultry				
wheat grain	NA	80	5	4.0
rice hulls	NA	15	12	1.8
rice bran [d]	NA	5	0.2	0.15
TOTAL BURDEN		100		**6**

[a]Table 1, OPPTS GLN 860.1000.
[b]Established or reassessed tolerances from Table C.
[c]Contribution = [tolerance / %DM (if cattle)] X % diet).
[d]Based on the reassessed tolerance for rice grain (3 ppm) and a concentration value of 1x for methyl parathion in rice bran.

OPPTS GLN 860.1400: Magnitude of the Residue in Water, Fish, and Irrigated Crops
Methyl parathion is not being support under reregistration for direct use on potable water and label restrictions for the use of methyl parathion on rice preclude the need for residue chemistry data under these guideline topics.

OPPTS GLN 860.1460: Magnitude of the Residue in Food-Handling Establishments
Methyl parathion is not being support under reregistration for use in food-handling establishments; therefore, no residue chemistry data are required under this guideline topic.

OPPTS GLN 860.1850: Confined Accumulation in Rotational Crops

The Agency has requried a new confined rotational crop study. A new confined rotational crop study (MRID 43127609) has been submitted and is under review. Pending acceptance of these data to satisfy guideline requirements, no additional confined rotational crop data are required to support the reregistration of methyl parathion.

OPPTS GLN 860.1900: Field Accumulation in Rotational Crops

The need for field rotational crop data will be determined once the new confined rotational crop data (MRID 43127609) are reviewed.

TABLE A. FOOD/FEED USE SITES, PATTERNS, and RESTRICTIONS SUPPORTED UNDER THE REREGISTRATION PROCESS FOR METHYL PARATHION (CASE 0153). Note: The conclusions listed in Table B regarding the reregistration eligibility of methyl parathion food/feed uses are predicated on the use information summarized in this Table.

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
ROOT and TUBER VEGETABLE GROUP							
Carrots							
Broadcast application Ground and aerial equipment	4 lb/gal EC [c] 5 lb/gal EC	1.0 lb/A	6	2	7	15	
Potatoes							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.5 lb/A	6	2	7	5	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap [d]	1.5 lb/A	6	2	7	5	
Sugar Beets							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	0.38 lb/A	6	2	7	20	
Sweet potatoes							
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	0.75 lb/A	8	2	7	5	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap [AL97000300] [LA96000100] [MS97000600]	0.75 lb/A	8	NS	NS	5	
Turnips							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	0.75 lb/A	6	2	7	15	
Yams							

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	0.75 lb/A	8	2	7	5	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap [AL97000300] [LA96000100] [MS97000600]	0.75 lb/A	8	NS	NS	5	
BULB VEGETABLES GROUP							
Onions							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.0 lb/A	6	2	7	15	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	6	2	7	15	
LEAFY VEGETABLES GROUP							
Celery							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.0 lb/A	2	2	14	15	
Lettuce (head and leaf)							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.0 lb/A	6	2	7	21	

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Spinach							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	<0.5 lb/A	6	2	7	15	
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	0.5 - 1.0 lb/A	6	2	7	21	
***BRASSICA* LEAFY VEGETABLES GROUP**							
Broccoli, Brussels sprouts, Cabbage, Cauliflower, Collards, Kale, and Mustard Greens							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.5 lb/A	6	2	7	21	A PHI of 10-days is permitted if the last application is <0.05 lb ai/A. For use on broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, and mustard greens only. Use on kohlrabi is prohibited.
LEGUME VEGETABLES GROUP							
Beans, dried (excluding cowpeas)							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.5 lb/A	6	2	7	15	Use on cowpeas is prohibited.
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	6	2	7	15	

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Beans, succulent (excluding cowpeas)							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.5 lb/A	6	2	7	15	Use on cowpeas is prohibited.
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	6	2	7	7	
Beans, succulent							
Broadcast application Ground equipment	2 lb/gal Mcap [MN97000100] [WI95000500]	0.75 lb/A	4	NS	4	7	For applications <0.05 lb ai/A/application a 3-day PHI is specified.
Broadcast application Ground equipment	2 lb/gal Mcap [MO95000100]	0.50 lb/A	6	NS	4	7	For applications <0.05 lb ai/A/application a 3-day PHI is specified.
Lentils							
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	0.5 lb/A	3	2	11	14	
Broadcast application Aerial equipment	2 lb/gal Mcap [ID84001000] [WA82005400]	0.5 lb/A	NS	5	NS	15	Do not harvest for forage or graze treated areas. Aerial applications only.

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Peas, dried and succulent (excluding field peas)							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.0 lb/A	6	2	7	15	A PHI of 10-day sis permitted if the last application is <0.5 lb ai/A. Use on field peas is prohibited.
Broadcast application Ground and aerial equipment	4 lb/gal EC [ID97001300] [OR97002000] [WA97003400]	<0.5 lb/A	NS	NS	NS	10	
Broadcast application Ground and aerial equipment	4 lb/gal EC [ID97001300] [OR97002000] [WA97003400]	0.5 - 1.0 lb/A	NS	NS	NS	15	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	0.5 lb/A	2	2	7	15	Use on field peas is prohibited.
Soybeans							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	0.5 lb/A	2	2	5	14	Do not feed green immature growing plants to livestock. Do not harvest for livestock feed.
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	2	2	7	30	Do not feed green immature growing plants to livestock. Do not harvest for livestock feed.
Broadcast application Ground and aerial equipment	2 lb/gal Mcap [IN88000700]	0.5 lb/A	2	NS	7	20	This SLN registration must be amended to include the following restriction: Do not feed green immature growing plants to livestock. Do not harvest for livestock feed.
Broadcast application Aerial equipment	3 lb/gal EC [e]	0.20 lb/A	2	2	7	20	Aerial applications only. Do not feed green immature growing plants to livestock. Do not harvest for livestock feed.
FRUITING VEGETABLES GROUP							
Tomatoes							

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	5	2	6	15	
POME FRUITS GROUP							
Apples and Pears							
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	2.0 lb/A	5	10	7	30	
STONE FRUITS GROUP							
Cherries							
Broadcast applications Ground and aerial equipment	2 lb/gal Mcap	1.5 lb/A	4	10	7	21	
Nectarines and Peaches							
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	<0.75 lb/A	6	10	7	21	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	0.75 - 2.0 lb/A	6	10	7	30	
Plums and Prunes							
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.5 lb/A	4	10	7	15	
TREE NUTS GROUP							
Almonds							
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	2.0 lb/A	6	10	21	28	

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Pecans							
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	2.0 lb/A	8	10	13	51	
Walnuts							
Broadcast application Ground and aerial equipment	2 lb/gal Mcap [CA97002400]	2.0 lb/A	4	10	21	14	
CEREAL GRAINS GROUP							
Barley							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.25 lb/A	6	2	7	15	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	0.75 lb/A	3	2	7	14	
Broadcast application Aerial equipment	3 lb/gal EC	0.25 lb/A	6	2	7	15	Aerial applications only.
Corn, field and pop							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.0 lb/A	6	2	7	12	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	5	2	14	12	
Broadcast application Aerial equipment	3 lb/gal EC	0.2 lb/A	6	2	5	12	Aerial applications only.
Broadcast application Ground and aerial equipment	2 lb/gal Mcap [IN88000200]	0.75	NS	NS	NS	NS	

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Corn, sweet							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	0.5 lb/A	6	2	3	3	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	5	2	14	12	
Broadcast application Aerial equipment	3 lb/gal EC	0.2 lb/A	6	2	5	12	Aerial applications only.
Broadcast application Ground and aerial equipment	2 lb/gal Mcap [IN88000200]	0.75	NS	NS	NS	NS	
Oats							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.25 lb/A	6	2	7	15	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	0.75 lb/A	3	2	7	14	
Rice							
Broadcast application Aerial equipment	4 lb/gal EC 5 lb/gal EC	0.75 lb/A	6	2	7	15	Aerial applications only. NEED LABEL RESTRICTIONS
Broadcast application Aerial equipment	2 lb/gal Mcap	0.75 lb/A	3	2	21	15	Aerial applications only. NEED LABEL RESTRICTIONS
Rye							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.25 lb/A	6	2	7	15	
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	0.75 lb/A	3	2	7	14	

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Wheat							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.25 lb/A	6	2	7	15	
	2 lb/gal Mcap	0.75 lb/A	3	2	7	14	
	2 lb/gal Mcap [NM82000400]	0.5 lb/A	NS	NS	NS	15	
Broadcast application Aerial equipment	3 lb/gal EC	0.25 lb/A	6	2	7	15	Aerial applications only.
GRASS FORAGE, FODDER, and HAY GROUP							
Grass							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	0.75 lb/A	6	1	NS	15	Apply in a minimum of 3 gal/A of water using ground equipment or 1 gal/A using aerial equipment.
NON-GRASS ANIMAL FEEDS GROUP							
Alfalfa							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC 5 lb/gal EC [NV97000100][f]	1 lb/A	2 per cutting	1	Not Specified (NS)	15	Maximum application rate of 0.38 lb ai/A/application is specified for CA and NV only (except SLN NV97000100). Apply in a minimum of 3 gal/A of water using ground equipment or 1 gal/A of water using aerial equipment.
Broadcast application Aerial equipment	3 lb/gal EC	0.25 lb/A	2	2	7	15	Aerial applications only. Do not apply more than 0.5 lb ai/A/cutting. Do not apply more than 0.14 lb ai/A/cutting in CA and NV.
MISCELLANEOUS							
Artichokes (globe)							

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.0 lb/A	4	2	7	7	
Canola (oilseed crop only)							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC 5 lb/gal EC [WA97001800][f]	0.5 lb/A	2	3	7	28	Not for use on rapeseed. Do not graze treated fields or feed treated forage or threshings to livestock.
Broadcast application Aerial equipment	3 lb/gal EC	0.25 lb/A	NS	3	NS	28	Aerial applications only. Not for use on rapeseed. Do not graze treated fields or feed treated forage or threshings to livestock.
Cotton							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	3.0 lb/A	10	2	3	7	
ULV aerial application	4 lb/gal EC [TX97000600]	3.0 lb/A	NS	1	4-5	1	Dilute in 1 quart of refined vegetable oil (such as cottonseed).
ULV aerial application	4 lb/gal EC [TX97000900][g]	1.0 lb/A	NS	1	3-7	NS	Dilute in 1 quart of refined vegetable oil (such as cottonseed).
Broadcast application Aerial equipment	3 lb/gal EC	0.6 lb/A	6	2	7	7	Aerial applications only.
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	8	2	5	14	
ULV aerial application	2 lb/gal Mcap	1.0 lb/A	8	1	5	14	
Grapes							
Broadcast Application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	2	2	7	28	Not for use in CA.

CROP GROUP Crop Application Type Application Timing Application Equipment	Formulation Class [SLN Reg. No.]	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Minimum Spray Volume [b] (gal/A)	Minimum Retreatment Interval (Days)	Pre-Harvest Interval (Days)	Use Restrictions
Post-harvest, dormant, delayed dormant, and prebloom applications. Ground and aerial equipment	2 lb/gal Mcap	1.5 lb/A	2	2	7	150	CA only.
Hops							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.0 lb/A	3	10	7	15	
Peanuts							
Broadcast application Ground and aerial equipment	2 lb/gal Mcap	1.0 lb/A	4	2	14	15	
Sunflowers							
Broadcast application Ground and aerial equipment	4 lb/gal EC 5 lb/gal EC	1.0 lb/A	3	2	7	30	
Broadcast application Aerial equipment	3 lb/gal EC	0.33 lb/A	3	2	5	30	Aerial applications only.

[a]Maximum number of applications at the maximum single application rate.
[b]Diluent is water unless otherwise specified under restrictions.
[c]4 lb/gal emulsifiable concentrate (EC) formulation; Cheminova Methyl Parathion 4 EC; EPA Reg. No. 67760-29. Includes SLN registration Nos. ID97001300, OR9700200, TX97000600, and WA97003400.
[d]2 lb/gal microencapsulated (Mcap) formulation; Penncap-M Microencapsulated Insecticide; EPA Reg. No. 4581-292. Includes SLN Registration Nos. AL97000300, CA97002400, ID84001000, IN88000200, IN88000700, LA96000100, MN97000100, MO95000100, MS97000600, NM82000400, WA82005400, and WI95000500.
[e]3 lb/gal emulsifiable concentrate (EC) formulation; Ethyl-Methyl Parathion 6-3EC; EPA Registration No. 67760-39. This is a multiple active ingredient (MAI) formulation containing 6 lb ai/gal of ethyl parathion in addition to 3 lb ai/gal of methyl parathion.
[f]Under EPA Reg. No. 2935-527.
[g]Under EPA Reg. No. 2935-528.

Table B. Residue Chemistry Science Assessments for Reregistration of Methyl Parathion.

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
860.1200: Directions for Use	N/A	Yes[2]	See Table A.
860.1300: Plant Metabolism	N/A	No[3]	41001401 41001403 41001404 42914601[4] 44669501[3]
860.1300: Animal Metabolism	N/A	No[5]	**00128039** 41001405 41001406 Letter dated 2/2/98[5]
860.1340: Residue Analytical Methods			
- Plant commodities	N/A	No[6]	**00003724 00035330 00073196 00080018 00085260 00085261 00085262 00101100 00101122 00101124 00101213 00102312 00102367 00102376 00102414 00113173 05004211** 42241601[7] 42281001[7] 42307901[7] 42307902[7] 42690001[8] 42717601[9] 42717602[9] 42844601[10] 42844602[10] 42844603[10] 42844604[10]
- Animal commodities	N/A	Yes[11]	**00047726 00105217**
860.1360: Multiresidue Methods	N/A	No	
860.1380: Storage Stability Data	N/A	Yes[12]	**00102314** 42230901[7] 42291901[7] 42307001[7] 43685601[13] 43758801[14] 44159702[14] 44632602[15] 44643602[12] 44413301[12] 44413403[12]
860.1500: Crop Field Trials			
Root and Tuber Vegetables Group			
- Beets, garden, roots	1 [§180.121(a)]	No[16]	
- Carrots	1 [§180.121(a)]	No	41395105
- Parsnips	1 [§180.121(a)]	No[16]	**00101095 00102356**

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
- Potatoes	0.1 (N) [§180.121(a)]	Yes[17]	**00101095 00102356** 41438102
- Radishes	1 [§180.121(a)]	No[16]	**00101095 00102356**
- Rutabagas	1 [§180.121(a)]	No[16]	
- Sugar beet roots	0.1 (N) [§180.121(a)]	No[18]	**00101095 00102418** 41379306
- Sweet potatoes	0.1 (N) [§180.121(a)]	No[19]	**00031669**
- Turnips roots	1 [§180.121(a)]	No[20]	**00102418** 41717806
- Yams	None	No[21]	
Leaves of Root and Tuber Vegetables Group			
- Beets garden greens	1 [§180.121(a)]	No[16]	
- Parsnip greens	1 [§180.121(a)]	No[16]	
- Radish tops	1 [§180.121(a)]	No[16]	
- Rutabaga tops	1 [§180.121(a)]	No[16]	
- Sugar beet tops	0.1 (N) [§180.121(a)]	Yes[22]	**00101095 00102418** 41379306
- Turnip greens	1 [§180.121(a)]	Yes[23]	**00102418** 41717806
Bulb Vegetables (*Allium spp.*) Group			
- Garlic	1 [§180.121(a)]	No[16]	
- Onions	1 [§180.121(a)]	Yes[24]	**00102356** 41395104 41596203

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
Leafy Vegetables (Except Brassica Vegetables) Group			
- Celery	1 [§180.121(a)]	No[25]	41717802
- Endive	1 [§180.121(a)]	No[16]	
- Lettuce	1 [§180.121(a)]	No[26]	41379302 41596204
- Parsley	1 [§180.121(b)]	No[16]	
- Spinach	1 [§180.121(a)]	No[27]	41359906
- Swiss Chard	1 [§180.121(a)]	No[16]	
***Brassica* (Cole) Leafy Vegetables Group**	1.0 [§180.121(b)]	No[28]	
- Broccoli	1 [§180.121(a)]	No	41379305
- Brussels Sprouts	1 [§180.121(a)]	No	
- Cabbage	1 [§180.121(a)]	No	**00061199** 41379304 42844602[10]
- Cauliflower	1 [§180.121(a)]	No	**00102356**
- Collards	1 [§180.121(a)]	No	
- Kale	1 [§180.121(a)]	No	
- Kohlrabi	1 [§180.121(a)]	No[16]	
- Mustard Greens	1 [§180.121(a)]	No	41359901

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
Legume Vegetables (Succulent or Dried) Group			
- Beans succulent and dried	1 [§180.121(a)]	No[29]	**00009821 00009822 00031669 00102417 00102370 00137986** 41438101 41457901 41517102 41560005 41596206 43967301[29]
- Guar beans	0.2 [§180.121(b)]	No[16]	**00161146 00161188**
- Lentils	1 [§180.121(b)]	No[30]	42307902[7]
- Peas succulent and dried	1 [§180.121(a)]	No[31]	**00102417** 41596207 42241601[7]
- Soybeans	0.1 [§180.121(a)]	Yes[32]	**00101100 00102314 00102367** 41379303
Foliage of Legume Vegetables Group			
- Beans forage and hay	None	No[33]	41517102
- Peas vines and hay	1 (forage) [§180.121(a)]	No[34]	41596207 42241601[7]
- Soybeans forage and hay	1 (hay) [§180.121(a)]	No[35]	**00101100 00102356 00102367** 41560003
Fruiting Vegetables (Except Cucurbits) Group			
- Eggplant	1 [§180.121(a)]	No[16]	
- Peppers	1 [§180.121(a)]	No[16]	**00102418**
- Tomatoes	1 [§180.121(a)]	No[36]	**00102292 00102415 00102417** 42844604[10]
Cucurbit Vegetables Group			
- Cucumbers	1 [§180.121(a)]	No[16]	**00102356**
- Melons	1 [§180.121(a)]	No[16]	**00102356**
- Pumpkins	1 [§180.121(a)]	No[16]	
- Squash (summer/winter)	1 [§180.121(a)]	No[16]	**00102356**

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
Citrus Fruits Group	1 [§180.121(a)]	No[16]	
Pome Fruits Group			
- Apples	1 [§180.121(a)]	No[37]	**00047726 00051649 00086695 00102355** 42844601[10]44413501[37] 44413502[37]
- Pears	1 [§180.121(a)]	Yes[38]	**00051649**
- Quince	1 [§180.121(a)]	No[16]	
Stone Fruits Group			
- Apricots	1 [§180.121(a)]	No[16]	**00102356**
- Cherries	1 [§180.121(a)]	No[39]	**00102356** 44622501[39] 44622502[39]
- Nectarines	1 [§180.121(a)]	No[40]	
- Peaches	1 [§180.121(a)]	No[41]	**00047726 00102356** 44159901[14]
- Plums (fresh prunes)	1 [§180.121(a)]	Yes[42]	**00102356**
Berries Group			
- Blackberries	1 [§180.121(a)]	No[16]	
- Blueberries (huckleberries)	1 [§180.121(a)]	No[16]	
- Boysenberries	1 [§180.121(a)]	No[16]	
- Currants	1 [§180.121(a)]	No[16]	
- Dewberries	1 [§180.121(a)]	No[16]	
- Gooseberries	1 [§180.121(a)]	No[16]	
- Loganberries	1 [§180.121(a)]	No[16]	

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
- Raspberries	1 [§180.121(a)]	No[16]	
- Youngberries	1 [§180.121(a)]	No[16]	
Tree Nuts Group			
- Almonds	0.1 (N) [§180.121(a)]	No[43]	**00102418** 44632601[15]
- Filberts	0.1 (N) [§180.121(a)]	No[16]	
- Pecans	0.1 (N) [§180.121(a)]	No[44]	43760901[44]
- Walnuts	0.1 (N) [§180.121(a)]	No[45]	44159701[14]
Cereal Grains Group			
- Barley	1 [§180.121(a)]	No[46]	**00051649 00072376 00086695**
- Corn	1 [§180.121(a)]	No[47]	**00051649 00085259 00085260 00085261** 41560002 41717803 41717804 41717805 44398301[47]
- Oats	1 [§180.121(a)]	No[46]	**00051649 00072376 00086695**
- Rice	1 [§180.121(a)]	No[48]	**00051649** 41379307 41560004 44643601[48]
- Rye	0.5 [§180.319]	No[46]	**00101096**
- Sorghum	0.1 (N) [§180.121(a)]	No[16]	**00053436 00081419 00101098 00101213** 41517103
- Wheat	1 [§180.121(a)]	No[49]	**00051649 00072376 00086695** 41560001 41596209
Forage Fodder and Straw of Cereal Grains			
- Barley hay and straw	None	No[46, 52]	
- Corn forage and stover	1 (forage) [§180.121(a)]	No[50]	**00051649 00085261** 41717803 41717805 42307901[7] 44398301[50]

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
- Oat forage, hay and straw	None	No[46, 52]	
- Rice straw	None	Yes[51]	41379307
- Rye forage and straw	None	No[46, 52]	
- Sorghum forage and stover	3 (forage and fodder) [§180.121(a)]	No[16]	**00053436 00081419 00101098 00101213** 41517103
- Wheat forage, hay and straw	None	Yes[52]	**00051649 00072376** 41596209 41818502[52]
Grass Forage Fodder and Hay Group			
- Grass forage and hay	1 (forage) [§180.121(a)]	Yes[53]	**00102417** 41359902 41359903 41359905 43479501[14]
Non-grass Animal Feeds			
- Alfalfa (fresh)	1.25 [§180.121(a)]	Yes[54]	**00035330 00035332 00035890 00047726 00072376 00101221 00102356 00104198** 41517101
- Alfalfa hay	5 [§180.121(a)]	Yes[54]	**00035330 00035332 00035890 00047726 00072376 00101221 00102356 00104198** 41517101
- Clover	1 [§180.121(a)]	No[16]	**00102356 00104198** 41439601
- Trefoil forage	1.25 [§180.121(b)]	No[16]	
- Trefoil hay	5 [§180.121(b)]	No[16]	
- Vetch forage and hay	1 [§180.121(a)]	No[16]	
Miscellaneous Commodities			
- Artichokes	1 [§180.121(a)]	No[55]	**00102415** 41717801
- Aspirated Grain Fractions	None	No[56]	44794501[56]
- Avocados	1 [§180.121(a)]	No[16]	

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
- Cottonseed	0.75 [§180.121(a)]	No[57]	**00008516 00080018 00086695 00099011 00101100 00101122 00101226 00101489 00102291 00102314 00102362 00102376 00105217 00113173** 41395103 41457904 44430601[57]
- Cotton, gin byproducts	None	Yes[58]	
- Cranberries	1 [§180.121(a)]	No[16]	
- Dates	1 [§180.121(a)]	No[16]	
- Figs	1 [§180.121(a)]	No[16]	
- Grapes	1 [§180.121(a)]	No[59]	**00102417** 41457902 42844603[10]44413401[59] 44413402[59]
- Guavas	1 [§180.121(a)]	No[16]	
- Hops	1 [§180.121(a)]	No[60]	44501201[60]
- Mangoes	1 [§180.121(a)]	No[16]	
- Mustard seed	0.2 [§180.121(a)]	No[16]	**00003724**
- Okra	1 [§180.121(a)]	No[16]	
- Olives	1 [§180.121(a)]	No[16]	
- Peanuts	1 [§180.121(a)]	No[61]	**00102418** 44620301[61] 4462302[61]
- Pineapples	1 [§180.121(a)]	No[16]	
- Rape seed	0.2 [§180.121(a)]	No[62]	**00003724** 42717601[63]
- Safflower seed	0.1 (N) [§180.121(a)]	No[16]	

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
- Strawberries	1 [§180.121(a)]	No[16]	**00102418**
- Sugarcane	0.1 (N) [§180.121(a)]	No[16]	
- Sunflower seed	0.2 [§180.121(a)]	No[64]	**00031669 00102312** 41359904
- Tobacco	None	No[16]	**00102356**
860.1520: Processed Food/Feed			
- Apples	None	No[65]	42479101[66]
- Barley	None	No[67]	
- Citrus	None	No[16]	
- Corn (field)	None	No[68]	41717804
- Cottonseed	None	No[68]	**00101122 00102362** 41596201
- Figs	None	No[16]	
- Grapes	None	No[68]	41457903
- Oats	None	No[67]	
- Olives	None	No[16]	
- Peanuts	None	No[69]	44620303[69]
- Pineapple	None	No[16]	
- Plums/prunes	None	Yes[70]	
- Potato	None	No[68]	41438102
- Rapeseed	None	No[71]	42717602[62]
- Rice	None	No[72]	**00051649** 41596205
- Rye	None	No[67]	
- Safflower seed	None	No[16]	
- Sorghum	None	No[16]	
- Soybeans	None	No[73]	41517104 42690001[8]
- Sugar beets	None	No[68]	41379306
- Sugarcane	None	No[16]	
- Sunflower seed	None	Yes[74]	
- Tomatoes	None	No[68]	42281001[7]

GLN: Data Requirements	Current Tolerances, ppm [40 CFR]	Must Additional Data Be Submitted?	References [1]
- Wheat	None	No[75]	41596209
860.1480: Meat Milk Poultry Eggs			
- Milk and the Fat Meat and Meat Byproducts of Cattle Goats Hogs Horses and Sheep	None	Yes[76]	
- Eggs and the Fat Meat and Meat Byproducts of Poultry	None	Yes[76]	
860.1400: Water Fish and Irrigated Crops	None	N/A	
860.1460: Food Handling	None	N/A	
860.1850: Confined Rotational Crops	N/A	No[77]	41596301 4312760977
860.1900: Field Rotational Crops	None	N/A[77]	

1. **Bolded** references were reviewed in the Residue Chemistry Chapter of the Methyl Parathion Reregistration Standard dated 11/8/85; non-bolded references were reviewed in the Residue Chemistry Chapter of the Methyl Parathion Reregistration Standard Update dated 11/24/92. All other references were reviewed as noted.

2. Registrants must amend all Section 3 end-use product labels for the EC formulations of methyl parathion containing 4 lb/gal of methyl parathion or more, as necessary, to conform to the Agency prescribed food/feed use sites, patterns, and restrictions specified in Appendix A.

   Registrants must amend all Section 3 end-use product labels for the EC formulations of methyl parathion containing 3 lb/gal of methyl parathion and 6 lb/gal of ethyl parathion, as necessary, to conform to the Agency's prescribed food/feed use sites, patterns, and restrictions specified in Appendix B. [Note: Since, the use of methyl parathion on sorghum is not being supported under reregistration, all end-use product labels for the EC formulations of methyl parathion containing 3 lb/gal of methyl parathion and 6 lb/gal of ethyl parathion must be amended to prohibit the use of methyl parathion on sorghum.]

   Registrants must amend all Section 3 end-use product labels for the Mcap formulations of methyl parathion containing 2 lb/gal of methyl parathion, as necessary, to conform to the Agency's prescribed food/feed use sites, patterns, and restrictions specified in Appendix C.

No label amendments are required for existing Special Local Needs (SLN) registrations listed in Table A with the exception of the SLN for the use of the Mcap formulation of methyl parathion on soybeans (IN88000700) which must be amended to prohibit the feeding or grazing of treated soybean forage or hay to livestock.

3. The registrant (Cheminova) has submitted a new lettuce metabolism study (MRID 44669501) which is under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any of the dietary exposure estimates used in the dietary risk assessments for methyl parathion. No new methyl parathion residues of concern were identified in the subject study. Pending acceptance of the new lettuce metabolism data to satisfy this guideline requirement, no additional plant metabolism data are required to support the reregistration of methyl parathion.

4. CBRS No. 12731, DP Barcode D195379, 5/6/94, R. Perfetti.

5. In a letter dated 2/2/98, the registrant (Cheminova) has submitted the additional data required to validate the experimental methods for the poultry and ruminant metabolism studies concerning: (I) the in-life portion of the study, including total feeds consumed to determine theoretical dietary intake of methyl parathion, as ppm, in the feed; (ii) the storage intervals for goat tissue and milk, and hen tissue and egg samples; and (iii) for the ruminant study only, the specific fraction or matrix used for Soxhlet extraction, acid hydrolysis, and enzyme hydrolysis; flow charts must be provided to indicate at what point these procedures were used. These data are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any of the dietary exposure estimates used in the dietary risk assessments for methyl parathion. Pending acceptance of these data to validate the experimental methods for the poultry and ruminant metabolism studies and satisfy this guideline requirement, no additional animal metabolism data are required to support the reregistration of methyl parathion.

6. The proposed enforcement method(s) employed to determine methyl parathion and methyl paraoxon in plant commodities are the FDA multiresidue testing protocol(s). Therefore, an independent laboratory validation (ILV) is not required.

7. CBRS Nos. 9854, 9856, 9857, 9958, 9967, and 10,074; DP Barcodes D177993, D177987, D177985, D178858, D178854, and D179067; 12/18/92; R. Perfetti.

8. CBRS No. 11616, DP Barcode D189381, 9/10/93, R. Perfetti.

9. CBRS No. 12024, DP Barcode D192316, 9/7/93, S. Knizner.

10. CBRS No. 12454, DP Barcode D194342, 1/4/94, R. Perfetti.

11. In conjunction with the ruminant and poultry feeding studies, the registrants must provide data validating the analytical method(s) used for determining methyl parathion, methyl paraoxon, *p*-nitrophenol, and amino-paraoxon-methyl in meat, milk, poultry, and eggs. If the feeding studies indicate that tolerances are necessary for residues in animal commodities, then the registrants must propose an enforcement method for determining residues of methyl parathion in animal commodities.

12. New storage stability data have been submitted demonstrating the stability of methyl parathion residues of concern in apples (MRID 44643602), peaches (MRID 44413301), and grapes (MRID 44413403) which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any of the dietary exposure estimates used in the dietary risk assessments for methyl parathion. Pending acceptance of these storage stability to satisfy guideline requirements, no additional data depicting the storage stability of methyl parathion residues of concern in plant commodities are required to support the reregistration of methyl parathion.

    Data depicting the storage stability of methyl parathion residues of concern in animal commodities are required in conjunction with the ruminant and poultry feeding studies.

13. DP Barcode D216966, 9/24/97, B. Cropp-Kohlligian.

14. DP Barcodes D225636, D225672, D235833, D235837; 9/19/97, B. Cropp-Kohlligian.

15. DP Barcode D249726, 4/8/99, B. Cropp-Kohlligian.

16. The Agency understands that the use of methyl parathion on this commodity is not being supported under reregistration. Hence, no residue chemistry data are required and the associated tolerance(s) should be revoked.

17. The available data are adequate to support the use of the EC formulation of methyl parathion on potatoes and indicate that the currently established tolerance for residues of methyl parathion in/on potatoes should be decreased from 0.1 ppm to 0.05 ppm.

    No data are available to support the use of the Mcap formulation of methyl parathion on potatoes. Data are required depicting methyl parathion residues of concern in/on potatoes harvested 5 days following the last of 6 foliar applications of the Mcap formulation of methyl parathion at 1.5 lb ai/A/application. The registrant should refer to OPPTS GLN 860.1500 for information on the number and location of field trials required. These data are considered confirmatory. [Note: The registrant (Elf Atochem) has committed to generate the subject data.]

18. The available data are adequate and support decreasing the tolerance for residues of methyl parathion in/on sugar beet roots from 0.1 ppm to 0.05 ppm.

19. Potato field trial data required to support the use of the Mcap formulation of methyl parathion on potatoes will be translated to support the use of the Mcap formulation of methyl parathion on sweet potatoes and yams. Available potato field trial data generated with an EC formulation of methyl parathion indicate that the tolerance for residues of methyl parathion in/on sweet potatoes should be decreased from 0.1 ppm to 0.05 ppm.

20. The available data are adequate and support decreasing the tolerance for residues of methyl parathion in/on turnip roots from 1 ppm to 0.05 ppm.

21. No residue chemistry data are required. Furthermore, since a tolerance for residues of methyl parathion is currently established in/on sweet potatoes, a tolerance for residues of methyl parathion in/on yams is not required. [Separate tolerances are not required for sweet potatoes and yams as specified under 40 CFR §180.1(h).]

22. Data are required depicting methyl parathion residues of concern in/on sugar beet tops harvested 20 days following the last of 6 foliar applications of an EC formulation of methyl parathion at 0.38 lb ai/A/application. The registrant should refer to OPPTS GLN 860.1500 for information on the number and location of field trials required. These data are considered confirmatory. [Note: The registrant (Cheminova) has <u>not</u> committed to generate the subject data.]

    Based on available turnip top data (MRID 41717806), residues of methyl parathion in/on sugar beet tops are likely to exceed the currently established tolerance in/on sugar beet tops (0.1 ppm) resulting from the maximum use rate of methyl parathion on sugar beets. Residues of methyl parathion in/on turnip tops harvested 21 days following the last of 6 foliar applications of methyl parathion at 0.8 lb ai/A/application were 0.05 ppm - 1.82 ppm and 0.05 ppm - 3.83 ppm in/on turnip tops harvested 7 days following 4 foliar applications of methyl parathion at 0.8 lb ai/A/application plus 2 foliar applications at 0.5 lb ai/A/application. Based on the translation of the turnip top data to sugar beet tops, the currently established tolerance for residues of methyl parathion in/on sugar beet tops should be increased from 0.1 ppm to 2 ppm.

23. Data are required depicting methyl parathion residues of concern in/on turnip tops harvested 15 days after the last of 6 foliar applications of the EC formulation of methyl parathion at 0.75 lb ai/A/application. The registrant should refer to OPPTS GLN 860.1500 for information on the number and location of field trials required. These data are considered confirmatory. {Note: The registrant (Cheminova) has <u>not</u> committed to generate the subject data.]

    Based on available turnip top data (MRID 41717806), residues of methyl

parathion in/on turnip tops are likely to exceed the currently established tolerance (1 ppm) in/on turnip greens resulting from the maximum use rate of methyl parathion on turnips. Residues of methyl parathion in/on turnip tops harvested 21 days following the last of 6 foliar applications of methyl parathion at 0.8 lb ai/A/application were 0.05 ppm - 1.82 ppm and 0.05 ppm - 3.83 ppm in/on turnip tops harvested 7 days following 4 foliar applications of methyl parathion at 0.8 lb ai/A/application plus 2 foliar applications at 0.5 lb ai/A/application. Based on these data, the currently established tolerance for residues of methyl parathion in/on turnip greens should be increased from 1 ppm to 4 ppm.

24. The available data are adequate to support the use of the EC formulation of methyl parathion on onions and indicate that the currently established tolerance for residues of methyl parathion in/on onions (1 ppm) is appropriate.

    No data are available to support the use of the Mcap formulation of methyl parathion on onions. Data are required depicting methyl parathion residues of concern in/on onions harvested 15 days following the last of 6 foliar applications of the Mcap formulation of methyl parathion at 1.0 lb ai/A/application. The registrant should refer to OPPTS GLN 860.1500 for information on the number and location of field trials required. These data are considered confirmatory. [Note: The registrant (Elf Atochem) has committed to generate the subject data.]

25. The available data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on celery should be increased from 1 ppm to 5 ppm.

26. The available data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on lettuce should be increased from 1 ppm to 2 ppm.

27. The available data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on spinach should be decreased from 1 ppm to 0.5 ppm.

28. Adequate broccoli, cabbage, and mustard green data are available and support the 1.0 ppm tolerance in/on *Brassica* Vegetables Crop Group. Individual tolerances for members of this group should be revoked.

29. The available dried bean residue chemistry data are adequate and support a tolerance of 0.05 ppm for residues of methyl parathion in/on beans, dried seed.

    The available succulent bean residue chemistry data are adequate and support a tolerance of 1 ppm for residues of methyl parathion in/on succulent beans.

    Additional succulent bean field trial data are required to support existing Special

Local Needs (SLN) registrations in MN (MN97000100), WI (WI95000500), and MO (MO95000100) for the use of the Mcap formulation of methyl parathion on succulent beans. The registrant (Elf Atochem) has submitted additional succulent bean field trial data (MRID 43967301) to support the subject SLN registrations which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or dietary exposure estimates used in the dietary risk assessments for methyl parathion. Pending acceptance of the subject succulent bean field trial data to support the existing Special Local Needs (SLN) registrations in MN (MN97000100), WI (WI95000500), and MO (MO95000100) for the use of the Mcap formulation of methyl parathion on succulent beans, no additional bean field trial data are required to support the reregistration of methyl parathion.

30. The available lentil field trial data are adequate and support decreasing the tolerance for residues of methyl parathion in/on lentil seeds from 1 ppm to 0.05 ppm

31. The available pea field trial data (succulent and dried) are adequate and support the establishment of separate tolerances for residues of methyl parathion in/on dried pea seeds at 0.5 ppm and in/on succulent peas at 1 ppm.

    Note: Although pea field trial data were not submitted to support the reregistration of the Mcap formulation of methyl parathion, available pea field trial data that were conducted using the EC formulation are sufficient since the proposed maximum use rate for the Mcap formulation of methyl parathion on peas (2 applications/season at 0.5 lb ai/A/application with a 15-day PHI) is significantly less than the maximum use rate for the EC formulation of methyl parathion on peas (6 applications/season at 1.0 lb ai/A/application with a 15-day PHI).

32. The available data are adequate to support the use of the EC formulation of methyl parathion on soybeans and indicate that the currently established tolerance for residues of methyl parathion in/on soybeans should be decreased from 0.1 ppm to 0.05 ppm.

    Data are required depicting methyl parathion residues of concern in/on soybeans harvested 30 days following the last of 2 applications of the Mcap formulation of methyl parathion at 1.0 lb ai/A/application. The registrant is referred to OPPTS GLN 860.1500 for information on the location and number of field trials required. These data are considered confirmatory. [Note: The registrant (Elf Atochem) has committed to generate the subject data.]

33. Bean vines and hay are no longer listed as RACs of beans. The only bean cultivar having foliage RACs is cowpeas for which forage and hay are RACs used as livestock feeds. The use of methyl parathion in/on cowpeas is not being

supported under reregistration. Hence, no residue data on bean vines and forage are required to support the reregistration of methyl parathion. No tolerances for residues of methyl parathion in/on bean vines or bean forage are needed.

34. Pea vines and hay are no longer listed as RACs of peas. The only pea cultivar having foliage RACs is field peas for which forage and hay are RACs used as livestock feeds. The use of methyl parathion in/on field peas is not being supported under reregistration. Hence, no residue chemistry data on peas vines and hay are required to support the reregistration of methyl parathion. No tolerances for residues of methyl parathion in/on pea vines or pea hay are needed.

35. Provided the registrants amend all end-use product labels, including SLN registration labels (SLN Reg. No. IN88000700) to prohibit the feeding or grazing of treated soybean forage and hay to livestock, no residue chemistry soybean forage and hay are required to support the reregistration of methyl parathion. No tolerances for residues of methyl parathion in/on soybean forage or soybean hay are needed.

36. The available data are adequate and support decreasing the tolerance for residues of methyl parathion in/on tomatoes from 1 ppm to 0.5 ppm.

37. Additional apple field trial data are required to support the use of the Mcap formulation of methyl parathion on apples. The available apple field trial data indicate that a tolerance of 1 ppm in/on apples would be appropriate.

    The registrant (Elf Atochem) has submitted new apple field trial data (MRIDs 44413501 and 44413502) to support the use of the Mcap formulation of methyl parathion on apples which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or change any dietary exposure estimates used in the dietary risk assessment for methyl parathion. Pending acceptance of the subject apple field trial data to support the use of the Mcap formulation of methyl parathion on apples, no additional apple field trial data are required to support the reregistration of methyl parathion.

38. Data are required depicting methyl parathion residues of concern in/on pears resulting from the maximum use rate of the Mcap formulation of methyl parathion on pears. Apple field trial data will <u>not</u> be translated to pears. The registrant should refer to OPPTS GLN 860.1500 for information on the number and location of field trials required. These data are considered critical to tolerance reassessment. [Note: The registrant (Elf Atochem) has <u>not</u> committed to generate the subject data.]

39. Additional cherry field trial data are required to support the use rate of the Mcap formulation of methyl parathion on cherries. The registrant (Elf Atochem) has submitted new cherry field trial data (MRIDs 44622501 and 44622502 to support the use of the Mcap formulation of methyl parathion on cherries which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to increase any dietary exposure estimates used in the dietary risk assessment for methyl parathion; however, these data do indicate that it may be appropriate to increase the currently established tolerance for residues of methyl parathion in/on cherries from 1 ppm to 4 ppm. Pending acceptance of the subject cherry field trial data to support the use of the Mcap formulation of methyl parathion on cherries, no additional cherry field trial data are required to support the reregistration of methyl parathion.

40. The available peach field trial data will be translated to support the use of methyl parathion on nectarines.

41. The available data are adequate and support the established 1 ppm tolerance for residues of methyl parathion in/on peaches.

42. Data are required depicting methyl parathion residues of concern in/on plums/fresh prunes reflecting the maximum use of the Mcap formulation of methyl parathion on plums/fresh prunes The registrant is referred to OPPTS GLN 860.1500 for information on the location and number of field trials required. These data are considered critical to tolerance reassessment. [Note: The registrant (Elf Atochem) has committed to generate these data.]

43. The available data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on almonds (0.1 ppm) is appropriate and that the currently established tolerance for residues of methyl parathion in/on almond hulls should be increased from 3 ppm to 25.

44. Additional pecan field trial data are required to support the use of the Mcap formulation of methyl parathion on pecans. The registrant (Elf Atochem) has submitted new pecan field trial data (MRID 43760901) to support the use of the Mcap formulation of methyl parathion on pecans which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any dietary exposure estimates used in the dietary risk assessment for methyl parathion; however, these data do indicate that it may be appropriate to decrease the currently established tolerance for residues of methyl parathion in/on pecans from 0.1 ppm to 0.05 ppm. Pending acceptance of the subject pecan field trial data to support the use of the Mcap formulation of methyl parathion on pecans, no additional pecan field trial data are required to support the reregistration of methyl parathion.

45. Data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on walnuts should be decreased from 0.1 ppm to 0.05 ppm.

46. Residue chemistry data on wheat grain, forage, hay, and straw will be translated to support uses on barley (grain, hay, and straw), oats (grain, forage, hay, and straw), and rye (grain, forage and straw).

47. The available data are adequate and support the establishment of separate tolerances for residues of methyl parathion in/on sweet corn (K+CWHR), field corn grain, and pop corn grain at 0.2 ppm.

    The registrant (Elf Atochem) has submitted new field corn data (MRID 44398301) depicting methyl parathion residues of concern in/on grain, forage, and fodder resulting from treatment with the Mcap formulation of methyl parathion which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or any exposure estimates used in the dietary risk assessment for methyl parathion.

48. The available data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on rice should be increased from 1 ppm to 3 ppm. The registrant (Elf Atochem) has submitted new rice field trial data (MRID 44643601) which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or change any dietary exposure estimates used in the dietary risk assessment for methyl parathion.

49. The available data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on wheat grain should be increased from 1 ppm to 5 ppm. [Note: Since wheat grain data are being translated to barley, oats, and rye grains, these grain tolerances should also be increased to 5 ppm.]

50. The available data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on corn forage should be increased from 1 ppm to 10 ppm. The available data also indicate that a tolerance for residues of methyl parathion in/on corn stover should be established and that an appropriate level would be 30 ppm.

    The registrant (Elf Atochem) has submitted new field corn data (MRID 44398301) depicting methyl parathion residues of concern in/on grain, forage, and fodder resulting from treatment with the Mcap formulation of methyl parathion which are under review. A preliminary evaluation of these data

indicates that it is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or any exposure estimates used in the dietary risk assessment for methyl parathion.

51. The available rice straw data are adequate to support the use of the EC formulation of methyl parathion on rice and indicate that a tolerance for residues of methyl parathion in/on rice straw should be established and that an appropriate level would be 9 ppm.

The available rice straw data are not adequate to support the use of the Mcap formulation of methyl parathion on rice. Data are required depicting methyl parathion residues of concern in/on rice straw harvested 15 days following the last of 3 foliar applications of the Mcap formulation of methyl parathion to rice at 0.75 lb ai/A/application. The registrant should refer to OPPTS GLN 860.1500 for information on the number and location of field trials required. These data are considered confirmatory. [Note: The registrant (Elf Atochem) has not committed to generate the subject data.]

52. The available wheat straw magnitude of the residue data are adequate and indicate a tolerance for residues of methyl parathion in/on wheat straw should be established and that an appropriate level would be 11 ppm. Since wheat straw data are being translated to barley straw, oat straw, and rye straw, tolerances for residues of methyl parathion in/on these straw RACs of barley, oats, and rye should also be established at 11 ppm.

Data are required depicting methyl parathion residues of concern in/on wheat forage and hay reflecting the maximum use rate of the EC formulation of methyl parathion on wheat. The registrants should refer to OPPTS GLN 860.1500 for information on the number and location of trials required. These data are considered confirmatory. [Note: The registrant (Cheminova) has not committed to generate the subject data.]

The available wheat forage and hay data (MRID 41596209), which were generated at a use rate which is slightly lower than the maximum use rate of the EC formulation of methyl parathion on wheat, indicate that tolerances for residues of methyl parathion in/on wheat forage and hay should be established and that appropriate levels would be 2 ppm and 3 ppm, respectively. Since wheat forage and hay data are being translated to barley hay, oat forage, oat hay, and rye forage, tolerances for residues of methyl parathion in/on these forage and hay RACs of barley, oats, and rye should also be established at 2 ppm and 3 ppm, respectively.

The registrant (Elf Atochem) has submitted new whet forage, hay, and straw magnitude of the residue data (MRID 41818502) which are under review. A

preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or change any dietary exposure estimates used in the dietary risk assessment for methyl parathion.

53. Data are required depicting methyl parathion residues of concern in/on grass forage (at a 0-day PHI/PGI) and hay reflecting the maximum use rate of the EC formulation of methyl parathion on grass. The registrants should refer to OPPTS GLN 860.1500 for information on the number and location of trials required. These data are deemed critical to tolerance reassessment. [Note: The registrant (Cheminova) has committed to generate the subject data.]

54. Data are required depicting methyl parathion residues of concern in/on alfalfa forage and hay reflecting the maximum use rate of the EC formulation of methyl parathion on alfalfa. The registrants should refer to OPPTS GLN 860.1500 for information on the number and location of trials required. These data are considered critical to tolerance reassessment. [Note: The registrant (Cheminova) has committed to generate the subject data.]

55. The available data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on artichokes should be increased from 1 ppm to 2 ppm.

56. Data are required depicting methyl parathion residues of concern in aspirated grain fractions (AGF) of wheat grain treated with the EC formulation of methyl parathion at the maximum use rate for methyl parathion on wheat. The registrant (Cheminova) has submitted new magnitude of the residue data (MRID 44794501) depicting methyl parathion residues of concern in the AGF of wheat grain treated with the EC formulation of methyl parathion at the maximum use rate. These data are under review. A preliminary evaluation of these data indicates that residues of methyl parathion are not likely to concentrate in AGF of wheat grain treated with methyl parathion. Based upon the highest average residue (HAFT) value for residues of methyl parathion in/on wheat grain (5.09 ppm) and the average concentration factor from the subject study (ca 1x), a tolerance of 5 ppm for residues of methyl parathion in aspirated grain fractions would be appropriate. Pending acceptance of these data to satisfy guideline requirements, no additional AGF data are required to support the reregistration of methyl parathion.

57. The available residue chemistry data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on cottonseed should be increased from 0.75 ppm to 5 ppm. Note: A tolerance level of 5 ppm for residues of methyl parathion in/on cottonseed is required to cover residues of methyl parathion likely to be incurred in/on cottonseed resulting from multiple ULV applications of the EC formulation of methyl parathion to cotton grown in TX at 3.0 lb ai/A/application with a 1-day PHI (SLN Reg. No. TX97000600).

Additional cottonseed field trial data are required to support the maximum use rate of the Mcap formulation of methyl parathion on cotton. The registrant (Elf Atochem) has submitted new cottonseed field trial data (MRID 44430601) which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or change any dietary exposure estimates used in the dietary risk assessment for methyl parathion. Pending acceptance of the subject cottonseed field trial data to support the use of the Mcap formulation of methyl parathion on cotton, no additional cottonseed magnitude of the residue data are required to support the reregistration of methyl parathion.

58. New cotton gin byproducts magnitude of the residue data are required to support the maximum use rates of the EC and Mcap formulations of methyl parathion on cotton. The registrants should refer to OPPTS GLN 860.1500 for information on the number and location of trials required. These data are considered critical to tolerance reassessment. [Note: The registrants (Cheminova and Elf Atochem) have committed to generate the subject data.]

59. Additional grape field trial data are required to support the use of the Mcap formulation of methyl parathion on grapes. The available grape field trial data indicate that a tolerance of 1 ppm for residues of methyl parathion in/on grapes would be appropriate.

    The registrant (Elf Atochem) has submitted new grape field trial data (MRIDs 44413401 and 44413402) which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any tolerance recommendations made herein or change any exposure estimates used in the dietary risk assessment for methyl parathion. Pending acceptance of the subject grape field trial data to support the use of the Mcap formulation of methyl parathion on grapes, no additional grape field trial data are required to support the reregistration of methyl parathion.

60. Data are required depicting methyl parathion residues of concern in/on dried hops treated with the EC formulation of methyl parathion at the maximum use rate of methyl parathion on hops. IR-4 has submitted new hops field trial data (MRID 44501201) to support the use of the EC formulation of methyl parathion on hops which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or change any dietary exposure estimates used in the dietary risk assessment for methyl parathion. Pending acceptance of these data to satisfy guideline requirements, no additional hops field trial data are required to support the reregistration of methyl parathion.

61. Additional peanut field trial data are required to support the use of the Mcap formulation of methyl parathion on peanuts. The registrant (Elf Atochem) has submitted new peanut field trial data (MRIDs 44620301 and 44620302) to support the use of the Mcap formulation of methyl parathion on peanuts which are under review. A preliminary evaluation of these data indicates that it is unlikely that a thorough review of these data will precipitate the need to increase dietary exposure estimates used in the dietary risk assessment for methyl parathion; however, these data do indicate that it may be appropriate to decrease the currently established tolerance for residues of methyl parathion in/on peanuts from 1 ppm to 0.05 ppm and establish a tolerance in/on peanut hay at 6 ppm. Pending acceptance of the subject peanut field trial data to support the use of the Mcap formulation of methyl parathion on peanuts, no additional peanut field trial data are required to support the reregistration of methyl parathion.

62. Provided the registrants amend all end-use product labels to specify applications to canola (oilseed crop) only, the available data are adequate and support the currently established 0.2 ppm tolerance for residues of methyl parathion in/on canola seed.

63. CBRS No. 12024, DP Barcode D192316, 9/7/93, S. Knizner.

64. The available data are adequate and indicate that the currently established tolerance for residues of methyl parathion in/on sunflower seeds should be decreased from 0.2 ppm to 0.05 ppm.

65. The available data are adequate and indicate that a tolerance for residues of methyl parathion in apple, wet pomace should be established and that an appropriate level would be 5 ppm. In apples, residues of methyl parathion did not concentrated in apple juice, but concentrated by 5.3x in wet apple pomace. Apple field trial data (including those under review (MRIDs 44413501 and 44413502) indicate that the currently established tolerance for residues of methyl parathion in/on apples (1 ppm) is just adequate to cover residues likely to occur in/on apples resulting from the maximum use rate of the Mcap formulation of methyl parathion on apples. Hence, a tolerance of 5 ppm should be established for residues of methyl parathion in apple, wet pomace.

66. CBRS No. 10687, DP Barcode D183212, 3/2/93, A. Aikens.

67. Processing data from wheat grain will be translated to determine the need for tolerances in processed commodities of barley grain, oat grain, and rye grain.

68. The available data are adequate and indicate that tolerances are not required for residues of methyl parathion in processed commodities of corn grain, cottonseed, grapes, potatoes, sugar beet roots, and tomatoes. Residues did not concentrate in commodities processed from corn grain, cottonseed, grapes, and

tomatoes bearing detectable residues. Residues were nondetectable in potatoes and sugar beet roots treated at 5x the maximum label rate and in the commodities processed from these crops.

69. New peanut processing data are required to support the use of the Mcap formulation of methyl parathion on peanuts. The registrant (Elf Atochem) has submitted new peanut processing data (MRID 44620303) to support the use of the Mcap formulation of methyl parathion on peanuts. The subject peanut processing data are under review. A preliminary evaluation of these data indicates that residues of methyl parathion do not concentrate in/on peanut meal and refined oil processed from peanuts treated with methyl parathion. Therefore, it is unlikely that a thorough review of these data will precipitate the need to change any tolerance reassessment recommendations made herein or any dietary exposure estimates used in the dietary risk assessment for methyl parathion. Pending acceptance of the subject peanut processing data to support the use of the Mcap formulation of methyl parathion on peanuts, no additional peanut processing data are required to support the reregistration of methyl parathion.

70. Data are required depicting the potential for the concentration of methyl parathion residues of concern in/on prunes processed from plums bearing detectable residues. [Note: The registrant (Elf Atochem) has committed to generate the subject data.]

71. The available data are adequate and indicate that tolerances for residues of methyl parathion are not required for the processed commodities of canola seed. Residues of methyl parathion did not concentrate in canola meal, but concentrated by 2x in refined canola oil processed from canola seed treated at 5x. Residues of methyl parathion were below the LOQ (0.05 ppm) in/on canola seed from all field trials. When residues in oil are adjusted for the degree of exaggeration, the maximum expected residues in oil would be <0.2 ppm. As the Agency is not proposing to decrease the current 0.2 ppm tolerance for residues of methyl parathion in/on canola seed, residues in oil would be covered by the current tolerance. Therefore, a separate tolerance is not required for canola oil.

72. The available data are adequate and indicate that a tolerance for residues of methyl parathion in rice hulls is required and that an appropriate level would be 12 ppm. In rice grain, residues of methyl parathion did not concentrate in brown rice, polished rice, or rice bran, but concentrated by 4.7x in rice hulls. Based upon the highest average field trial (HAFT) value for residues of methyl parathion in/on rice grain (2.35 ppm), a tolerance of 12 ppm for residues of methyl parathion in rice hulls should be established.

73. The available data are adequate and indicate that a tolerance for residues of methyl parathion in soybean oil is required and that an appropriate level would be 0.2 ppm. In soybeans, residues of methyl parathion did not concentrate

significantly in hulls and meal, but concentrated by 3x in refined oil. Based upon the reassessed tolerance for residues of methyl parathion in/on soybeans (0.05 ppm), a tolerance of 0.2 ppm for residues of methyl parathion in refined soybean oil should be established. [Note: Additional soybean magnitude of the residue data are required to support the use of the Mcap formulations of methyl parathion on soybeans. These data are considered confirmatory.]

74. Data are required depicting the potential for the concentration of methyl parathion residues of concern in sunflower meal and oil processed from sunflower seeds bearing detectable residues. [Note: The registrant (Cheminova) has committed to generate the subject data.]

75. In wheat grain, residues of methyl parathion did not concentrate in flour, but concentrated by ca 2x in wheat bran, shorts, and germ. Based upon the highest average field trial (HAFT) value for residues of methyl parathion in/on wheat grain (5.09 ppm), a tolerance of 10 ppm for residues of methyl parathion in wheat bran, shorts, and germ should be established. In addition, these data should be translated to establish tolerances for residues of methyl parathion in barley bran and rye bran at 10 ppm.

76. Ruminant and poultry feeding studies are required. For these studies, ruminants and poultry should be dosed orally at 1x, 3x, and 10x the maximum expected dietary burden for a minimum of 28 days or until residues plateau in milk and eggs if they have not done so by 28 days. Animals should be sacrificed within 24 hours of receiving the final dose. Milk and eggs should be collected throughout the study, and samples of muscle, fat, liver, and kidney (ruminants only) should be collected for analysis. Samples should be analyzed for residues of methyl parathion, methyl paraoxon, *p*-nitrophenol, and amino-paraoxon-methyl. In addition, these studies must be supported by data depicting the storage stability of residues in animal commodities. For additional guidance, the registrants should refer to OPPTS GLN 860.1480.

77. Confined rotational crop data are required. Confined rotational crop data (MRID 43127609) were submitted to satisfy OPPTS GLN 860.1850 data requirements and are under review. The need for field rotational crop data to satisfy OPPTS GLN 860.1900 requirements will be determined once these data have been reviewed.

TOLERANCE REASSESSMENT SUMMARY

Tolerances for residues of methyl parathion are expressed in terms of parathion or its methyl homolog (methyl parathion) [40 CFR §180.121 (a) and §180.319] or in terms of methyl parathion *per se* [40 CFR §180.121 (b)]. The HED Metabolism Assessment Review Committee (memo by B. Cropp-Kohlligian dated 5/21/98) has tentatively determined that the tolerance expression for methyl parathion residues of concern in/on plant commodities may be based on residues of methyl parathion only. Tolerances for residues of parathion should be moved from 40 CFR §180.121 (a) and listed under a separate 40 CFR §180.XXX (a) section. The tolerance definition for methyl parathion listed under 40 CFR §180.121 (a) should be changed to read as follows:

> Tolerances are established for the residues of methyl parathion [*O*,*O*-dimethyl-*O*-*p*-nitrophenylthiophosphate] in/on the following commodities:

The appropriate tolerances for methyl parathion residues in animal commodities will be determined once data are available from outstanding livestock feeding studies. The HED Metabolism Assessment Review Committee (memo by B. Cropp-Kohlligian dated 5/21/98) has tentatively determined that the tolerance expression for methyl parathion residues of concern in/on animal commodities, if tolerances are needed, may be based on residues of methyl parathion only.

A summary of the methyl parathion tolerance reassessment and recommended modifications in commodity definitions are presented in Table C.

Tolerances Listed Under 40 CFR §180.121 (a) and (b):

In support of the reregistration of methyl parathion, the registrants (Cheminova and Elf Atochem) and IR-4 have submitted the following new field trial data: (i) apple field trial data (MRIDs 44413501 and 44413502), (ii) beans field trial data (MRID 43967301), (iii) cherry field trial data (MRIDs 44622501 and 44622502), (iv) cottonseed field trial data (MRID 44430601), (v) field corn field trial data (MRID 44398301), (vi) grape field trial data (MRIDs 44413401 and 44413402), (vii) hops field trial data (MRID 44501201), (viii) pecan field trial data (MRID 43760901), (ix) peanut field trial data (MRIDs 44620301 and 44620302), (x) rice field trial data (MRID 44643601), (xi) wheat forage, hay, and straw magnitude of the residue data (MRID 41818502), and (xii) magnitude of the residue data on aspirated grain fractions (AGF) of wheat (MRID 44794501). These data are under review.

Pending acceptance of the new residue chemistry data detailed above to fulfill guideline requirements and provided the registrants amend all end-use product labels, as necessary, to conform to the Agency's prescribed food/feed use sites, patterns, and restrictions as specified in Table A (and further clarified for each formulation in Appendices A, B, and C), sufficient data are available to reassess tolerances for residues of methyl parathion in/on almonds, almond hulls, apples, artichokes, barley

grain (translated from wheat grain), dried beans, succulent beans, canola seed, carrots, celery, cherries, field corn grain, pop corn grain, sweet corn (K+CWHR), corn forage, cottonseed, grapes, dried hops, Leafy Vegetables *Brassica* (cole), lentils, lettuce, nectarines (translated from peaches), oat grain (translated from wheat grain), onions, peaches, peanuts, dried peas, succulent peas, pecans, potatoes, rice grain, soybeans, spinach, sugar beet roots, sugar beet tops, sunflower seed, sweet potatoes (translated from potatoes), tomatoes, turnip tops, turnip roots, walnuts, and wheat grain. However, additional residue chemistry data are required on sugar beet tops, onions, potatoes, soybeans, and turnip tops. These data are considered confirmatory.

Additional residue chemistry data deemed critical to tolerance reassessment are required before tolerances can be reassessed on the following commodities: alfalfa forage and hay, grass forage and hay, pears, and plums.

Tolerances for residues of methyl parathion in/on commodities of the following crops are not being supported under reregistration and should be revoked: apricots, avocados, birdsfoot trefoil, blackberries, blueberries (huckleberries), boysenberries, citrus fruits, clover, cranberries, cucumbers, currants, dates, dewberries, eggplant, endive (escarole), figs, filberts, garden beets, garlic, gooseberries, guar beans, guavas, Loganberries, mangoes, melons, okra, olives, parsley, parsnips, peppers, pineapples, pumpkins, quinces, radishes, raspberries, rutabagas, safflower, sorghum, soybean hay, squash, summer squash, strawberries, sugarcane, Swiss chard, vetch, and Youngberries.

Tolerances for residues of methyl parathion in/on mustard seed and pea forage should be revoked as these are not considered RACs of their respective crops.

The tolerance for residues of methyl parathion in/on lentils listed under 40 CFR §180.121 (b) should be revoked concomitant with the establishment of a tolerance on lentil, seed at 0.05 ppm under 40 CFR §180.121 (a).

The tolerance for residues of methyl parathion in/on vegetables, leafy, *Brassica* (cole) listed under 40 CFR §180.121 (b) should be revoked concomitant with the establishment of a tolerance on vegetables, leafy, *Brassica* (cole) at 1 ppm under 40 CFR §180.121 (a). Individual tolerances on broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, kohlrabi, and mustard greens should be revoked.

<u>Tolerances Listed Under 40 CFR §180.319:</u>

The temporary tolerance for residues of methyl parathion in/on rye should be revoked concomitant with the establishment of permanent tolerances listed under 40 CFR §180.121 (a).

Tolerances Needed Under 40 CFR §180.121 (a):

New tolerances are needed for residues of methyl parathion in/on the following RACs: aspirated grain fractions, barley hay, barley straw, corn stover, cotton gin byproducts, lentil seed, oat forage, oat hay, oat straw, peanut hay, rice straw, rye grain, rye forage, rye straw, Leafy Vegetables *Brassica* (cole) crops, wheat forage, wheat hay, and wheat straw. At the present time, sufficient data are available to determine appropriate tolerances for residues of methyl parathion in/on aspirated grain fractions (5 ppm), corn stover (30 ppm), lentil seed (0.05 ppm), peanut hay (6 ppm), rice straw (9 ppm), , Leafy Vegetables *Brassica* (cole) crops (1 ppm), wheat forage (2 ppm), wheat hay (3 ppm), and wheat straw (11 ppm). Additional field trial data, deemed confirmatory, are required on rice straw, wheat forage, wheat hay, and wheat straw. Wheat forage, hay, and straw data will be translated to similar barley, oats, and rye commodities. Additional field trial data, deemed critical to tolerance reassessment, are required on cotton gin byproducts.

Separate tolerances are also required for residues in the following processed food/feed items: wet apple pomace, barley bran, rice hulls, rye bran, refined soybean oil, wheat bran, wheat germ, and wheat shorts. At the present time, sufficient data are available to determine appropriate tolerances for residues of methyl parathion in wet apple pomace (5 ppm), rice hulls (12 ppm), refined soybean oil (0.2 ppm), wheat bran (10 ppm), wheat germ (10 ppm), and wheat shorts (10 ppm). Wheat bran data will be translated to barley bran and rye bran. Additional soybean field trial data, deemed confirmatory, are required. [Note: Processing studies on plums/prunes and sunflower seed remain outstanding.]

Table C. Tolerance Reassessment Summary for Methyl Parathion.

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	*Correct Commodity Definition* Comments
Tolerances listed under 40 CFR §180.121 (a):			
Alfalfa, Fresh	1.25	TBD [a]	*Alfalfa, forage* Data deemed critical to tolerance reassessment remain outstanding.
Alfalfa, Hay	5	TBD	*Alfalfa, hay* Data deemed critical to tolerance reassessment remain outstanding.
Almonds	0.1(N)	0.1	
Almonds, hulls	3	25	
Apples	1	1	New apple field trial data (MRIDs 44413501 and 44413502) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on apples may be appropriate.
Apricots	1	Revoke	Not supported under reregistration
Artichokes	1	2	
Avocados	1	Revoke	Not supported under reregistration
Barley	1	5	*Barley, grain* Translated from wheat grain.
Beans	1	1	*Beans, succulent* New succulent bean field trial data (MRID 43967301) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on succulent beans may be appropriate.
		0.05	*Beans, dried seed*
Beets greens (alone)	1	Revoke	Not supported under reregistration
Beets (with or without tops)	1	Revoke	Not supported under reregistration
Beets, sugar	0.1(N)	0.05	*Sugar beets, roots*
Beets, sugar (tops)	0.1(N)	2	*Sugar beets, tops* Translated from turnip top data. Additional sugar beet top magnitude of the residue data are required. These data are considered confirmatory.

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	*Correct Commodity Definition* Comments
Blackberries **Blueberries (huckleberries)** **Boysenberries** **Dewberries** **Gooseberries** **Loganberries** **Raspberries** **Youngberries**	1	Revoke	Not supported under reregistration
Broccoli **Brussels sprouts** **Cabbage** **Cauliflower** **Collards** **Kale** **Kohlrabi** **Mustard greens**	1	Revoke	Concomitant with the establishment of a Vegetables, leafy, Brassica (cole) crop group tolerance at 1 ppm under §180.121 (a).
Carrots	1	1	*carrot, root*
Celery	1	5	
Cherries	1	4	New cherry field trial data (MRIDs 44622501 and 44622502) are under review. A preliminary evaluation of these data indicates that it may be appropriate to increase the currently established tolerance in/on cherries from 1 ppm to 4 ppm.
Citrus Fruits	1	Revoke	Not supported under reregistration
Clover	1	Revoke	Not supported under reregistration
Corn	1	0.2	*Corn, field, grain* New corn field trial data (MRID 44398301) are under review. A preliminary evaluation of these data indicates that the reassessed tolerances in/on field corn grain and pop corn grain are appropriate.
		0.2	*Corn, pop, grain*
		0.2	*Corn, sweet: K+CWHR*
Corn, Forage	1	10	*Corn, forage* New corn field trial data (MRID 44398301) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on corn forage is are appropriate.

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	*Correct Commodity Definition* Comments
Cottonseed	0.75	5	*Cotton, undelinted seed* New cottonseed field trial data (MRID 44430601) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on cottonseed may be appropriate.
Cranberries	1	Revoke	Not supported under reregistration
Cucumbers **Melons** **Pumpkins** **Squash** **Summer squash**	1	Revoke	Not supported under reregistration
Currants	1	Revoke	Not supported under reregistration
Dates	1	Revoke	Not supported under reregistration
Eggplant	1	Revoke	Not supported under reregistration
Endive (escarole)	1	Revoke	Not supported under reregistration
Figs	1	Revoke	Not supported under reregistration
Filberts	0.1(N)	Revoke	Not supported under reregistration
Garlic	1	Revoke	Not supported under reregistration
Grapes	1	1	New grape field trial data (MRIDs 44413401 and 44413402) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on grapes may be appropriate.
Grass (forage)	1	TBD	*Grass, forage* Data deemed critical to tolerance reassessment remain outstanding.
		TBD	*Grass, hay* Data deemed critical to tolerance reassessment remain outstanding.
Guavas	1	Revoke	Not supported under reregistration
Hops	1	1	*Hops cones, dried* New hops field trial data (MRID 44501201) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on hops may be appropriate.

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	*Correct Commodity Definition* Comments
Lettuce	1	2	*Lettuce, head and leaf*
Mangoes	1	Revoke	Not supported under reregistration
Mustard seed	0.2	Revoke	Not a RAC of mustard
Nectarines	1	1	Translated from peach field trial data.
Oats	1	5	*Oat, grain* Translated from wheat grain data.
Okra	1	Revoke	Not supported under reregistration
Olives	1	Revoke	Not supported under reregistration
Onions	1	1	Additional onion field trial data are required. These data are considered confirmatory.
Parsnips (with or without tops)	1	Revoke	Not supported under reregistration
Parsnip greens (alone)	1	Revoke	Not supported under reregistration
Peaches	1	1	
Peanuts	1	0.05	New peanut field trial data (MRIDs 44620301 and 44620302) are under review. A preliminary evaluation of these data indicates that it may be appropriate to decrease the currently established tolerance in/on peanuts from 1 ppm to 0.05 ppm.
Pears	1	TBD	It is uncertain if the currently established tolerance is appropriate. Data deemed critical to tolerance reassessment remain outstanding.
Peas	1	1	*Pea, succulent*
		0.5	*Peas, dried seed*
Peas forage	1	Revoke	Not a significant livestock feed item
Pecans	0.1(N)	0.05	New pecan field trial data (MRID 43760901) are under review. A preliminary evaluation of these data indicate that it may be appropriate to decrease the currently established tolerance in/on pecans from 0.1 ppm to 0.05 ppm.
Peppers	1	Revoke	Not supported under reregistration
Pineapples	1	Revoke	Not supported under reregistration

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	*Correct Commodity Definition* Comments
Plums (Fresh Prunes)	1	TBD	It is uncertain if the currently established tolerance is appropriate. Data deemed critical to tolerance reassessment remain outstanding.
Potatoes	0.1(N)	0.05	*Potato, tuber* Additional potato field trial data are required. These data are considered confirmatory.
Quinces	1	Revoke	Not supported under reregistration
Radishes (with or without tops)	1	Revoke	Not supported under reregistration
Radish, tops	1	Revoke	Not supported under reregistration
Rape seed	0.2	0.2	*Canola seed*
Rice	1	3	*Rice, grain* New rice field trial data (MRID 44643601) are under review. A preliminary evaluation of these data indicate that the reassessed tolerance in/on rice grain may be appropriate.
Rutabagas (with or without tops)	1	Revoke	Not supported under reregistration
Rutabaga tops	1	Revoke	Not supported under reregistration
Safflower seed	0.1(N)	Revoke	Not supported under reregistration
Sorghum	0.1(N)	Revoke	Not supported under reregistration
Sorghum fodder	3	Revoke	Not supported under reregistration
Sorghum forage	3	Revoke	Not supported under reregistration
Soybean	0.1	0.05	*Soybean, seed* Additional soybean field trial data are required. These data are considered confirmatory.
Soybean hay	1	Revoke	Not supported under reregistration
Spinach	1	0.5	
Strawberries	1	Revoke	Not supported under reregistration
Sugarcane	0.1(N)	Revoke	Not supported under reregistration
Sugarcane fodder	0.1(N)	Revoke	Not supported under reregistration
Sugarcane forage	0.1(N)	Revoke	Not supported under reregistration

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	*Correct Commodity Definition* Comments
Sunflower seed	0.2	0.05	
Sweet Potatoes	0.1(N)	0.05	*Sweet potato, root* Translated from available potato data. Additional potato field trial data are required. These data are considered confirmatory.
Swiss Chard	1	Revoke	Not supported under reregistration
Tomatoes	1	0.5	
Turnips (with or without tops)	1	0.05	*Turnip, roots*
Turnip greens	1	4	*Turnip, tops* Additional turnip top magnitude of the residue data are required. These data are considered confirmatory.
Vetch	1	Revoke	Not supported under reregistration
Walnuts	0.1(N)	0.05	
Wheat	1	5	*Wheat, grain*
Tolerances listed under 40 CFR §180.121 (b):			
Birdsfoot trefoil forage	1.25	Revoke	Not supported under reregistration
Birdsfoot trefoil hay	5	Revoke	Not supported under reregistration
Guar beans	0.2	Revoke	Not supported under reregistration
Lentils	1	Revoke	Concomitant with the establishment of a tolerance on *lentil, seed* at 0.05 ppm under 180.121(a)
Parsley	1	Revoke	Not supported under reregistration
Vegetables, leafy, *Brassica* (cole)	1.0	Revoke	Concomitant with the establishment of a tolerance on Vegetables, leafy, *Brassica* (cole) at 1 ppm under 180.121(a)
Tolerances listed under 40 CFR §180.319:			
Rye	0.5	Revoke	Temporary tolerance no longer in effect.
Tolerances needed under 40 CFR §180.121 (a)			
Apple, wet pomace	None	5	Based on a concentration factor of 5.3x and apple field trial data which indicate that the currently established tolerance on apples (1 ppm) is just adequate.

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	*Correct Commodity Definition* Comments
Aspirated grain fractions	None	5	New aspirated grain fractions magnitude of the residue data (MRID 44794501) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on aspirated grain fractions would be appropriate.
Barley, bran	None	10	Translated from wheat bran.
Barley, hay	None	3	Translated from wheat hay. Additional wheat hay magnitude of the residue data are required.
Barley, straw	None	11	Translated from wheat straw.
Corn, stover	None	30	New corn field trial data (MRID 44398301) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on corn stover is appropriate.
Cotton gin byproducts	None	TBD	Data deemed critical to tolerance reassessment remain outstanding.
Lentil, seed	None	0.05	
Oat, forage	None	2	Translated from wheat forage. Additional wheat forage data are required.
Oat, hay	None	3	Translated from wheat hay. Additional wheat hay magnitude of the residue data are required.
Oat, straw	None	11	Translated from wheat straw.
Peanut hay	None	6	New peanut field trial data (MRIDs 44620301 and 44620302) are under review. A preliminary evaluation of these data indicates that it may be appropriate to establish a tolerance in/on peanut hay and that 6 ppm may be appropriate.
Rice, hulls	None	12	Based on an average concentration factor of 4.7x and a HAFT value of 2.35 ppm in/on rice grain.
Rice, straw	None	9	Additional rice straw magnitude of the residue data are required. These data are considered confirmatory.
Rye, bran	None	10	Translated from wheat bran.

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	*Correct Commodity Definition* Comments
Rye, grain	None	5	Translated from wheat grain.
Rye, forage	None	2	Translated from wheat forage. Additional wheat forage data are required.
Rye, straw	None	11	Translated from wheat straw.
Soybean, refined oil	None	0.2	Based on a concentration factor of 3x and the reassessed tolerance for residues of methyl parathion in/on soybeans (0.05 ppm).
Vegetables, leafy, *Brassica* (cole)	None	1	
Wheat, bran	None	10	Based on a concentration factor of 2x and a HAFT value of 5.09 ppm in/on wheat grain.
Wheat, forage	None	2	Additional wheat forage magnitude of the residue data (MRID 41818502) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on wheat forage is appropriate. Additional wheat forage magnitude of the residue data are required. These data are considered confirmatory.
Wheat, germ	None	10	Based on a concentration factor of 2x and a HAFT value of 5.09 ppm in/on wheat grain.
Wheat, hay	None	3	Additional wheat hay magnitude of the residue data (MRID 41818502) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on wheat hay is appropriate. Additional wheat hay magnitude of the residue data are required. These data are considered confirmatory.
Wheat, shorts	None	10	Based on a concentration factor of 2x and a HAFT value of 5.09 ppm in/on wheat grain.

Commodity	Current Tolerance (ppm)	Tolerance Reassessment (ppm)	*Correct Commodity Definition* Comments
Wheat, straw	None	11	Additional wheat straw magnitude of the residue data (MRID 41818502) are under review. A preliminary evaluation of these data indicates that the reassessed tolerance in/on wheat straw is appropriate.

[a]TBD = To be determined.

CODEX HARMONIZATION

The Codex Alimentarius Commission has established maximum residue limits (MRLs) for methyl parathion residues in/on various plant commodities (see *Guide to Codex Maximum Limits For Pesticide Residues, Part A.1, 1995*). Codex MRLs for methyl parathion are currently expressed in terms of the parent. The U.S. tolerance definition will be compatible with Codex. A comparison of the Codex MRLs and the corresponding U.S. tolerances is presented in Table D.

Table D. Codex MRLs for Parathion-methyl and applicable U.S. tolerances.

Codex			Reassessed U.S. Tolerance (ppm)	Recommendations and Comments
Commodity (As Defined)	**MRL (mg/kg)**	**Step**		
Artichoke globe	2	3	2	
Bean forage (green)	1	3	None	
Beans (dry)	0.05 * [a]	3	0.05	
Brassica vegetables	0.2	CXL	1	
Broccoli	0.2	3(a)	None	
Cabbages, Head	0.2	3(a)	None	
Carrot	1	3	1	
Celery	5	3	5	
Cherries	0.01 *	CXL	4	
Clover	10	3	None	
Common bean (pods and/or immature seeds)	0.05 *	3	1	U.S. commodity definition is “Beans, succulent”.
Garden pea (young pods)	1	3	1	U.S. commodity definition is “Peas, succulent”.
Gooseberry	0.01 *	CXL	None	
Hay or fodder (dry) of grasses	5	3	TBD [b]	U.S. commodity definitions are “Grass, forage” and “Grass, hay”.
Hops, Dry	1.0	3(a)	1	
Lettuce, Leaf	0.05 *	3	2	
Lettuce, Head	0.5	3	2	
Lima bean (young pods and/or immature beans)	0.05 *	3	1	U.S. commodity definition is “Beans, succulent”.
Mustard greens	0.5	3	None	

Codex			Reassessed U.S. Tolerance (ppm)	Recommendations and Comments
Commodity (As Defined)	**MRL (mg/kg)**	**Step**		
Peas (dry)	0.2	3	0.5	U.S. commodity definition is “Peas, dried seed”.
Plums (including prunes)	0.01 *	CXL	TBD	
Potato	0.05 *	3	0.05	U.S. commodity definition is “Potato, tuber”.
Raspberries, Red, Black	0.01 *	CXL	None	
Rice	3	3	3	U.S. commodity definition is “Rice, grain”.
Rice straw and fodder, Dry	10	3	9	U.S. commodity definition is “Rice, straw”.
Rice, Husked	1	3	3	U.S. commodity definition is “Rice, grain”.
Spinach	0.5	3	0.5	
Sugar beet	0.05 *	CXL	0.05	U.S. commodity definition is “Sugar beet, roots”.
Sugar beet leaves or tops	0.05 *	3	2	U.S. commodity definition is “Sugar beet, tops”.
Turnip greens	2	3	4	U.S. commodity definition is “Turnip, tops”.
Turnip, Garden	0.05 *	3	0.05	U.S. commodity definition is “Turnip, roots”.
Wheat	5	3	5	U.S. commodity definition is “Wheat, grain”.
Wheat bran, Unprocessed	10	3	10	U.S. commodity definition is “Wheat, bran”.
Wheat straw and fodder, Dry	10	3	11	U.S. commodity definition is “Wheat, straw”.

[a]An asterisk (*) signifies that the MRL was established at or about the limit of detection.
[b]TBD = To be determined; additional data are required before the U.S. tolerance can be determined.

APPENDIX A

As a condition of reregistration, all end-use product labels (Sections 3 registrations only) for the 4 lb/gal EC and 5 lb/gal EC formulations of methyl parathion must be amended, as necessary, to conform to the following prescribed food/feed use sites, patterns, and restrictions.

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
ROOT and TUBER VEGETABLE GROUP						
Carrots						
Broadcast application Ground and aerial equipment	1.0 lb/A	6	2	7	15	
Potatoes						
Broadcast application Ground and aerial equipment	1.5 lb/A	6	2	7	5	
Sugar Beets						
Broadcast application Ground and aerial equipment	0.38 lb/A	6	2	7	20	
Turnips						
Broadcast application Ground and aerial equipment	0.75 lb/A	6	2	7	15	
BULB VEGETABLES GROUP						
Onions						
Broadcast application Ground and aerial equipment	1.0 lb/A	6	2	7	15	
LEAFY VEGETABLES GROUP						
Celery						
Broadcast application Ground and aerial equipment	1.0 lb/A	2	2	14	15	
Lettuce (head and leaf)						
Broadcast application Ground and aerial equipment	1.0 lb/A	6	2	7	21	

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
Spinach						
Broadcast application Ground and aerial equipment	<0.5 lb/A	6	2	7	15	
Broadcast application Ground and aerial equipment	0.5 - 1.0 lb/A	6	2	7	21	
***BRASSICA* LEAFY VEGETABLES GROUP**						
Broccoli, Brussels sprouts, Cabbage, Cauliflower, Collards, Kale, and Mustard Greens						
Broadcast application Ground and aerial equipment	1.5 lb/A	6	2	7	21	A PHI of 10-days is permitted if the last application is <0.05 lb ai/A. For use on broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, and mustard greens only. Use on kohlrabi is prohibited.
LEGUME VEGETABLES GROUP						
Beans, dried (excluding cowpeas)						
Broadcast application Ground and aerial equipment	1.5 lb/A	6	2	7	15	Use on cowpeas is prohibited.
Beans, succulent (excluding cowpeas)						
Broadcast application Ground and aerial equipment	1.5 lb/A	6	2	7	15	Use on cowpeas is prohibited.
Peas, dried and succulent (excluding field peas)						
Broadcast application Ground and aerial equipment	1.0 lb/A	6	2	7	15	A PHI of 10-day sis permitted if the last application is <0.5 lb ai/A. Use on field peas is prohibited.
Soybeans						
Broadcast application Ground and aerial equipment	0.5 lb/A	2	2	5	14	Do not feed green immature growing plants to livestock. Do not harvest for livestock feed.
CEREAL GRAINS GROUP						
Barley						
Broadcast application Ground and aerial equipment	1.25 lb/A	6	2	7	15	
Corn, field and pop						

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
Broadcast application Ground and aerial equipment	1.0 lb/A	6	2	7	12	
Corn, sweet						
Broadcast application Ground and aerial equipment	0.5 lb/A	6	2	3	3	
Oats						
Broadcast application Ground and aerial equipment	1.25 lb/A	6	2	7	15	
Rice						
Broadcast application Aerial equipment	0.75 lb/A	6	2	7	15	Aerial applications only. NEED LABEL RESTRICTIONS
Rye						
Broadcast application Ground and aerial equipment	1.25 lb/A	6	2	7	15	
Wheat						
Broadcast application Ground and aerial equipment	1.25 lb/A	6	2	7	15	
GRASS FORAGE, FODDER, and HAY GROUP						
Grass						
Broadcast application Ground and aerial equipment	0.75 lb/A	6	1	NS	15	Apply in a minimum of 3 gal/A of water using ground equipment or 1 gal/A using aerial equipment.
NON-GRASS ANIMAL FEEDS GROUP						
Alfalfa						
Broadcast application Ground and aerial equipment	1 lb/A	2 per cutting	1	Not Specified (NS)	15	Maximum application rate of 0.38 lb ai/A/application is specified for CA and NV only (except SLN NV97000100). Apply in a minimum of 3 gal/A of water using ground equipment or 1 gal/A of water using aerial equipment.

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
MISCELLANEOUS						
Artichokes (globe)						
Broadcast application Ground and aerial equipment	1.0 lb/A	4	2	7	7	
Canola (oilseed crop only)						
Broadcast application Ground and aerial equipment	0.5 lb/A	2	3	7	28	No for use on rapeseed. Do not graze treated fields or feed treated forage or threshings to livestock.
Cotton						
Broadcast application Ground and aerial equipment	3.0 lb/A	10	2	3	7	
Hops						
Broadcast application Ground and aerial equipment	1.0 lb/A	3	10	7	15	
Sunflowers						
Broadcast application Ground and aerial equipment	1.0 lb/A	3	2	7	30	

[a]Maximum number of applications at the maximum single application rate.
[b]Diluent is water unless otherwise specified under restrictions.

APPENDIX B

As a condition of reregistration, all end-use product labels (Section 3 registrations only) for the 3 lb/gal EC formulations of methyl parathion must be amended, as necessary, to conform to the following prescribed food/feed/use sites, patterns, and restrictions.

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
LEGUME VEGETABLES GROUP						
Soybeans						
Broadcast application Aerial equipment	0.20 lb/A	2	2	7	20	Aerial applications only. Do not feed green immature growing plants to livestock. Do not harvest for livestock feed.
CEREAL GRAINS GROUP						
Barley						
Broadcast application Aerial equipment	0.25 lb/A	6	2	7	15	Aerial applications only.
Corn, field and pop						
Broadcast application Aerial equipment	0.2 lb/A	6	2	5	12	Aerial applications only.
Corn, sweet						
Broadcast application Aerial equipment	0.2 lb/A	6	2	5	12	Aerial applications only.
Wheat						
Broadcast application Aerial equipment	0.25 lb/A	6	2	7	15	Aerial applications only.
NON-GRASS ANIMAL FEEDS GROUP						
Alfalfa						
Broadcast application Aerial equipment	0.25 lb/A	2	2	7	15	Aerial applications only. Do not apply more than 0.5 lb ai/A/cutting. Do not apply more than 0.14 lb ai/A/cutting in CA and NV.
MISCELLANEOUS						
Canola (oilseed crop only)						
Broadcast application Aerial equipment	0.25 lb/A	NS	3	NS	28	Aerial applications only. Not for use on rapeseed. Do not graze treated fields or feed treated forage or threshings to livestock.

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
Cotton						
Broadcast application Aerial equipment	0.6 lb/A	6	2	7	7	Aerial applications only.
Sunflowers						
Broadcast application Aerial equipment	0.33 lb/A	3	2	5	30	Aerial applications only.

[a] Maximum number of applications at the maximum single application rate.

[b] Diluent is water unless otherwise specified under restrictions.

APPENDIX C

As a condition of reregistration, all end-use product labels (Section 3 registrations only) for the 2 lb/gal Mcap formulations of methyl parathion must be amended, as necessary, to conform to the following food/feed use sites, patterns, and restrictions.

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
ROOT and TUBER VEGETABLE GROUP						
Potatoes						
Broadcast application Ground and aerial equipment	1.5 lb/A	6	2	7	5	
Sweet potatoes						
Broadcast application Ground and aerial equipment	0.75 lb/A	8	2	7	5	
Yams						
Broadcast application Ground and aerial equipment	0.75 lb/A	8	2	7	5	
BULB VEGETABLES GROUP						
Onions						
Broadcast application Ground and aerial equipment	1.0 lb/A	6	2	7	15	
LEGUME VEGETABLES GROUP						
Beans, dried (excluding cowpeas)						
Broadcast application Ground and aerial equipment	1.0 lb/A	6	2	7	15	Use on cowpeas is prohibited.
Beans, succulent (excluding cowpeas)						
Broadcast application Ground and aerial equipment	1.0 lb/A	6	2	7	7	Use on cowpeas is prohibited.
Lentils						
Broadcast application Ground and aerial equipment	0.5 lb/A	3	2	11	14	
Peas, dried and succulent (excluding field peas)						
Broadcast application Ground and aerial equipment	0.5 lb/A	2	2	7	15	Use on field peas is prohibited.
Soybeans						

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
Broadcast application Ground and aerial equipment	1.0 lb/A	2	2	7	30	Do not feed green immature growing plants to livestock. Do not harvest for livestock feed.
FRUITING VEGETABLES GROUP						
Tomatoes						
Broadcast application Ground and aerial equipment	1.0 lb/A	5	2	6	15	
POME FRUITS GROUP						
Apples and Pears						
Broadcast application Ground and aerial equipment	2.0 lb/A	5	10	7	30	
STONE FRUITS GROUP						
Cherries						
Broadcast applications Ground and aerial equipment	1.5 lb/A	4	10	7	21	
Nectarines and Peaches						
Broadcast application Ground and aerial equipment	<0.75 lb/A	6	10	7	21	
Broadcast application Ground and aerial equipment	0.75 - 2.0 lb/A	6	10	7	30	

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
Plums and Prunes						
Broadcast application Ground and aerial equipment	1.5 lb/A	4	10	7	15	
TREE NUTS GROUP						
Almonds						
Broadcast application Ground and aerial equipment	2.0 lb/A	6	10	21	28	
Pecans						
Broadcast application Ground and aerial equipment	2.0 lb/A	8	10	13	51	
Walnuts						
Broadcast application Ground and aerial equipment	2.0 lb/A	4	10	21	14	
CEREAL GRAINS GROUP						
Barley						
Broadcast application Ground and aerial equipment	0.75 lb/A	3	2	7	14	
Corn, field and pop						
Broadcast application Ground and aerial equipment	1.0 lb/A	5	2	14	12	
Corn, sweet						
Broadcast application Ground and aerial equipment	1.0 lb/A	5	2	14	12	
Oats						
Broadcast application Ground and aerial equipment	0.75 lb/A	3	2	7	14	
Rice						
Broadcast application Aerial equipment	0.75 lb/A	3	2	21	15	Aerial applications only. NEED LABEL RESTRICTIONS

CROP GROUP Crop Application Type Application Timing Application Equipment	Maximum Single Application Rate (ai)	Max. # Apps. [a]	Min. Spray Volume [b] (gal/A)	RTI (Days)	PHI (Days)	Use Restrictions
Rye						
Broadcast application Ground and aerial equipment	0.75 lb/A	3	2	7	14	
Wheat						
	0.75 lb/A	3	2	7	14	
MISCELLANEOUS						
Cotton						
Broadcast application Ground and aerial equipment	1.0 lb/A	8	2	5	14	
ULV aerial application	1.0 lb/A	8	1	5	14	
Grapes						
Broadcast Application Ground and aerial equipment	1.0 lb/A	2	2	7	28	Not for use in CA.
Post-harvest, dormant, delayed dormant, and prebloom applications. Ground and aerial equipment	1.5 lb/A	2	2	7	150	CA only.
Peanuts						
Broadcast application Ground and aerial equipment	1.0 lb/A	4	2	14	15	

[a]Maximum number of applications at the maximum single application rate.
[b]Diluent is water unless otherwise specified under restrictions.